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Sherds With Style: A Ceramic Analysis From A Protohistoric Site In Oktibbeha County, Mississippi.

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SHERDS WITH STYLE:

A CERAMIC ANALYSIS FROM A PROTOHISTORIC SITE

IN OKTIBBEHA COUNTY, MISSISSSIPPI

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ABSTRACT

A key part of understanding the lesser known contact period in the Southeastern United States is studying the effects of contact on Mississippian chiefdoms and their descendant population. The Starkville Archaeological Complex is an archaeological pattern of a distinct clustering of contact-era sites in the Blackland Prairie physiographic district of northeast Mississippi. Atkinson (1979) defined these sites as a dispersed settlement pattern with distinct ceramic assemblages associated with European metal. The ceramics are characterized as sandy historic Chickasaw pastes with Mississippian-like distinct curvilinear or angular surface decorations. This thesis is an analysis of the ceramic assemblage excavated in 2016 from the Protohistoric Stark Farm Site (22OK778) located in Oktibbeha County, Mississippi. This site is part of the Starkville Archaeological Complex and it features ceramics indicative of both pre- and post-contact periods. The purpose of this thesis is to determine the chronological position of the Stark Farm Site and to further define the Starkville Archaeological Complex using ceramic seriation and radiocarbon dating.

DEDICATION

To John (Doc) Cottier, who instilled a passion for archaeology simply by placing a trowel in my hand.

LIST OF ABBREVIATIONS AND SYMBOLS

Cm(s)	Centimeter(s)
cmbs	Centimeters below surface
g	Grams
m	Meters
mm	Millimeters
SAC	Starkville Archaeological Complex
Var.	Variety; the type-variety system defines the type with plain text followed by the variety name in italics.

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CHAPTER I: INTRODUCTION

A key part of understanding the lesser known Protohistoric (A.D. 1500-1700) (Jeter 2009:368) period in the Southeastern United States is studying the effects of contact on Mississippian chiefdoms and their descendant population. In the past, archaeologists viewed the Protohistoric period as a transitional time, one that saw the collapse of the Mississippian chiefdoms and the reconfiguring of indigenous populations as they interacted in a European world. This traditional view did not recognize Native American agency. Further research at post-contact sites identified methods of manipulation by Native Americans to adapt to the post-contact world (Ethridge 2010; Ethridge and Shuck-Hall 2009; Galloway 1995).

The Hernando de Soto expedition (1539-1543) encountered the Mississippian societies of the interior southeast. De Soto led a 600-plus army, beginning in Florida, and relied on the Native Americans for food and shelter as well as guides, translators, and slaves. In northeast Mississippi, De Soto traveled to the chiefdom of Chicaza, which is identified as the ancestral homeland of the Chickasaw (Ethridge 2010). However, the site of Chicaza has not been identified. De Soto's entrada was the advent of more Europeans settling in the region. The after effects of De Soto and further European contact on native groups during the late sixteenth century is poorly known. Specifically, in northeast Mississippi, it is difficult to definitively identify Protohistoric sites archaeologically. Little work has been done to create ceramic chronologies for this region, using seriation with radiocarbon dating for this period.

This lack of information results in an interpretation of native groups that lacks agency, although historians have rectified this using documentary evidence (e.g. Ethridge 2010; Galloway 1995). Archaeologists can contribute and broaden these interpretations with material culture. The archaeology of Protohistoric sites is important to our understanding of pre- and post-contact effects on Native Americans in the Southeast.

The Starkville Archaeological Complex (SAC) is an archaeological pattern of a distinct clustering of Protohistoric sites in the Blackland Prairie physiographic district of northeast Mississippi. A total of 252 sites have been identified as part of the SAC in Oktibbeha county (Clark 2017). Atkinson (1979) defined the SAC as dispersed settlements with distinct ceramic assemblages associated with European metal. The ceramics are characterized as sandy historic Chickasaw pastes with Mississippian-like distinct curvilinear or angular surface decorations (Atkinson 1979:62). Johnson (2000: 87-104) demonstrates a continuation of ceramic styles from the Mississippian societies of the Tombigbee River to historic Chickasaw groups in present-day Tupelo, Mississippi. However, variation in this ceramic series during these 200 years is not well understood. A fine-grained analysis of ceramics from sites in the SAC has the potential to answer questions about the effects of contact on the Protohistoric Chickasaw and identify Chickasaw responses to contact. More broadly, such a study adds to our knowledge about the effects of contact on indigenous populations (Stein 2005).

Ceramic assemblages have been used to define chronology and identity at archaeological sites. In the past, archaeologists relied on a type-variety system to classify and organize ceramic wares (Phillips 1970; Phillips et al. 1951). Ceramic artifacts offer more information for understanding behavior than a chronological sequencing of patterns. Archaeologists use the type-variety system today to identify cultural patterns by using site-to-site ceramic assemblages

through seriation (Lieb 2004). Seriations are used to create relative chronologies. The use of radiometric dating improves seriation as a methodology to define these chronologies. Seriations identify patterns across multiple sites to understand the cultural processes in a region. This is especially useful for areas of contact where one of those processes is indigenous agency. Radiometric dating places relative dates based on seriation into absolute dates, which allows for a more precise understanding of change over time. However, in the Southeast, very little Protohistoric cultural chronologies based on both seriation and radiocarbon dating has been done. An attribute analysis that emphasizes temper and surface decoration, combined with radiocarbon dates from secure features that contained those ceramics, gives archaeologists the potential to refine chronology for the contact period in this region.

This thesis is an analysis of the ceramic assemblage excavated in 2016 from the Protohistoric Stark Farm Site (22OK778) located in Oktibbeha County, Mississippi. This site is part of the SAC and it features ceramics indicative of both pre- and post-contact periods. The purpose of this thesis is to determine the chronological position of the Stark Farm Site and to further define the SAC using ceramic seriation and radiocarbon dating. The ceramics from four discrete feature contexts are seriated. To do this, the ceramic assemblage from the Stark Farm Site were seriated along with ceramics from Late Mississippian contexts at Lubbub Creek (1PI85) in Alabama (Peebles 1983) and historic Chickasaw assemblages from Tupelo, Mississippi (Johnson et al. 2004). Radiocarbon dates from the features at Stark Farm were also obtained, which provide absolute dates for this seriation.

The historical background and theoretical frameworks of this study are presented in Chapter 2. In Chapter 3, the methods and results of excavations at the Stark Farm Site are described. Chapter 4 defines methods of the ceramic analysis, results, and seriation of the Stark

Farm assemblages. Finally, Chapter 5 summarizes the study and discusses how the seriation further defines the SAC and contact-era studies in the Southeast, and it suggests future research questions based on this work

CHAPTER II: LITERATURE REVIEW

In 1540, the De Soto *entrada* encountered the ancestral group of the Chickasaw organized into the hierarchal chiefdom societies of the Mississippian world (Hudson 1997). The Mississippian period (A.D. 1000-1600) (Blitz 1993:34) signifies the emergence of complex societies, or chiefdoms, formed by intricate economic, political, and ritual spheres organized under a powerful leader (Cobb 2003). These societies developed rapidly across the Southeastern United States with differing levels of complexity and variation in settlement, economic, and political domains (Ethridge 2009:6). Scholars continue to develop new theories regarding the Mississippian world; some theories focus on the collapse of these chiefdoms (see Ethridge and Shuck-Hall 2009; Ethridge 2010).

Archaeologists examine the material culture of past cultures, which reflects the actions of the people who used them. Artifacts associated with particular features found within the archaeological record can help archaeologists understand the lives of the Mississippians. Artifacts and features indicative of the Mississippian Period are shell-tempered pottery, earthen mounds, and the remains of a sedentary lifestyle, which include settled communities with corn agriculture (Hudson 1997). These characteristics do not simply suggest a connection with a particular group of people, but illustrate a more complex association with the economic, political, and ritual interactions of the Mississippians.

The Mississippian polities occupied the physical landscape that stretched across the major river valleys and its tributaries of the southeastern and mid-western United States. Specifically, the meandering Mississippi River, which is one proposed starting point for these settled communities, displayed a rich and abundant opportunity for a sedentary agricultural lifestyle (Smith 1978:481). The fertile and well-drained soils of the floodplains provided sufficient nutrients for these agriculturalists to grow successful crops, as well as provide an ample amount of plants and wildlife to be exploited.

The settlement patterns of these native societies varied depending upon their levels of complexity. One theory on Mississippian complexity suggests there are three levels, simple, complex, and paramount, for the Mississippian chiefdoms, and each accounts for differing amounts of regional power over economic, political and ritual spheres (Anderson 1996; Steponiatis 1978). The chief holds sociopolitical power, which is dependent on the hierarchal level of complexity and the regional territory occupied. Simple chiefdoms consisted of households and a small mound center with one to two mounds (Blitz and Lorenz 2006). Complex chiefdoms contained households and small secondary mound centers associated with a larger, primary mound center (Steponaitis 1986). Paramount chiefdoms existed on a different political plane than their smaller counterparts. The paramount chiefdom controlled smaller polities united most likely under one single form; however, these polities were the most unstable (Blitz and Lorenz 2006). These polities organized themselves under non-aggression alliance pacts with a single charismatic leader stretching across a large geographic area (Ethridge 2010:17). This caused political tensions to run high with these single leaders constantly struggling to remain in power (Ethridge and Shuck-Hall 2009).

All chiefdoms had considerable control over resources and the population. This served as a hub for a tribute economy that exchanged goods across the landscape (Blitz and Lorenz 2006). The paramount chiefdom extracted its tribute from neighboring polities (Blitz and Lorenz 2006). Some archaeologists argue (Blitz and Lorenz 2006) that the archaeological record does not display any significant evidence to conclude that any chiefdom was paramount. Others suggest (Hudson et al. 1985) that a paramount chiefdom of Coosa, known from the De Soto chronicles (see Biedma 1993; Gentleman of Elvas 1993;Rangel 1993), is also detectable archaeologically, with the Little Egypt site in north Georgia as the head of this paramount chiefdom.

Archaeologists continue to discover more Mississippian archaeological sites that do not fit the typical Mississippian model (King and Meyers 2002). Some Mississippian sites occupied the peripheries of the traditional Mississippian geographic region. These groups interacted with the Mississippian world to varying degrees (Meyers 2011). Frontier theoretical frameworks are often applied to these polities to explain this variation. While these sites likely interacted with Mississippian polities, their social and political organization are often not identical to traditional Mississippian chiefdoms (King and Meyers 2002), which broadens our understanding of these societies.

The hierarchy of chiefdoms is reflected in their material culture (Hudson 1997:26). As stated before, chiefdom settlements increased in complexity. Mounds are material indicators of hierarchy and chiefs often lived on top or around the base of these mounds (Hally 1993, 1996). Chiefs also had differential access to goods and this is evidenced in burials (Hatch 1987; Peebles and Kus 1977). Part of the chief's power was based in part on ideologies inscribed on ceramic vessels, which legitimized the ruling hereditary line through physical representations of

ideological systems (Hudson 1997:27). Ceramic wares were most commonly tempered by mussel shell obtained from local sources (Steponaitis 2009:20). Motifs depicting similar ideologies, such as hand-and-eye and the long-nosed god, can be found across Mississippian sites in the Southeast on items such as pottery, stone, and shell (King 2007:11).

Contact and subsequent interactions with Europeans, which included disease and slaving, caused the collapse of the Mississippian world, and the chiefly system of hierarchy no longer proved successful once natives began to participate in the global market introduced by Europeans (Ethridge 2009:19). The tumultuous period after contact caused groups from different ethnic backgrounds to form new societies that would share and transform lifeways (Ethridge 2010).

Research to identify historic Chickasaw ceramics has been done to trace the origins of Chickasaws to the Mississippians (Atkinson 1979; Jennings 1941; Lieb 2004; Stubbs 1982). The first published classification of historic Chickasaw ceramics was by Jennings (1941). Brad Lieb (2004) suggested that Moreau Chambers was likely the first to identify historic Chickasaw ceramics, though most of his work remained in unpublished field notes (Lieb 2004:2.3). The tempering agent for Chickasaw ceramics is primarily fossil shell, which is found in outcrops from the Selma Chalk formation of the Blackland Prairie (Jennings 1944:411; Lowe 1920:11), though sand also was used as a temper (Lieb 2004:2.6). Plain wares dominate most Chickasaw assemblages from the mid-to-late seventeenth century; however, some distinct modes, like appliqué fillets or punctated lips, do occur (Lieb 2004:2.6).

A key characteristic to historic Chickasaw archaeological sites are *okaakinafa'* , large 3 to 5-meter, basin-shaped pits with debris from house construction and domestic activities (Lieb 2004:2.5). These midden pits are believed to have been used to acquire clay to plaster houses,

after which they were quickly filled with domestic debris (O'Hear and Ryba 1984; Johnson 2000:101). The tight clustering and overlapping edges of these features indicates that these pits were not dug by the Chickasaw at the same time (Lieb 2004:2.6). Lieb (2004) used assemblages from these large pits to create a fine-grained seriation of historic Chickasaw wares.

Placing the ceramic wares of the Mississippians and historic Chickasaw side by side, a distinct difference in practice and style is automatically identified. The complex iconography found on some of the Mississippian ceramics in the study area (Mann 1983) reflects the ideology of the native groups, while the plain wares of the Chickasaw in the study area represent a collapse of the chiefdom system (Jennings 1941; Lieb 2004). This physical representation of these shifts in practice is a possible result of contact. Analyzing the ceramic assemblages from Mississippian and Chickasaw sites provides a link through material culture to past populations from pre-and post-contact contexts.

Effects of Contact

Kelton (2009) challenged prior research that identified disease as the sole reason for the total annihilation of Mississippian chiefdoms. Ethridge (2009) developed the model of the "shatter zone" to explain the reverberating ripples of disruptions that traveled throughout the Southeast after European contact. She argues the causes for the ultimate collapse of the Mississippians are numerous (Ethridge 2009). She defines (2009: 21) the Mississippian shatter zone as the structural instability caused by contact within Mississippian polities during the sixteenth through eighteenth centuries. In the greater Southeast, European contact continued with the Tristán de Luna (1559-1561) and Juan Pardo (1566-1568) expeditions (Hudson and Tesser 1994). However, in northeast Mississippi, there were at least 140 years (1541-1682) of an

undocumented history and very little archaeology has been done in this region for this period (Ethridge 2010:60). The power cycling between these unstable chiefdoms did not stop after the *entradas* left (Ethridge 2009:9). Chiefdoms rose in prominence when others collapsed as these societies had before contact (Anderson 1996).

The European presence increased in the New World with the establishment of commercial trade between the natives and the French, Dutch, and English (Ethridge 2004:8.2). Natives participated in the new global economy of the Old World through the slave and deerskin trade in exchange for guns. A shift to a new economic exchange caused groups to dissolve and form into different societies. The commercial trade system produced militarized slaving groups, like the Iroquois in the north, that decimated existing societies and forced any remaining groups to move and assimilate into new native groups (Ethridge 2010:93). These coalescent societies developed during this tumultuous period of contact. Groups would allow refugees or adopt members of suffering communities to increase their own numbers, while participating in trade with the Europeans. The resulting Native American societies in the Southeast formed as the Cherokee, Creek, Choctaw, Chickasaw, and Catawba, who established and dominated extensive trade routes from the present-day Carolinas to Mississippi.

Slaving was not new to the indigenous groups of the Southeast. Slave raiding was a common Mississippian war practice, though not to the extent that was present post-contact under the encouragement of the Europeans. The hostility between chiefdoms existed; yet with the European commercial trade, slave raiding became a territorial and commercial trade. This practice differed from earlier slaving, where the occasional woman and child were captured during the warfare of the Mississippians (Ethridge 2010:31; Snyder 2010). By 1715, trade shifted to fur in the deerskin industry (Johnson et al. 2004:1.1).

Native populations and Europeans created a network of trade, but it also caused disease to spread across the Eastern Woodlands. Populations declined as a result of slave raiding and several waves of epidemics during the seventeenth century (Kelton 2009:313). Massive population loss in native groups increased hostilities, and slave raiding served to replace those that were lost (Snyder 2010). As Kelton (2009) argues, it also caused the beginnings of a rapid native retaliation against European traders like during the Yamasee War of 1715. There, native tribes joined together to protest the unfair trading practices. Many societies resembling those from the Mississippian world of the fifteenth century quickly collapsed under the pressures of disease and commercial trade (Ethridge 2009:15). Some groups formed and exhibited Mississippian characteristics, like the Natchez of Mississippi, who remained in the area into the 1700s.

The study of contact between groups is an analytical line of inquiry to understand culture change. Although contact is typically seen as an interaction between Europeans and indigenous societies, Eric Wolf (1982) challenged this line of thought by arguing that encounters between groups occurred for centuries before European colonial expansion. Specifically in North American archaeology, scholars now understand interactions in prehistoric societies to be reflected in the material culture, for example the introduction of live shell-tempered wares into the Mississippian period from the earlier Woodland period (Cook and Fargher 2008; Jenkins 1978; and Stoltman 1991). During the De Soto *entrada*, natives manipulated the Spanish to their advantage. Some chiefs would use De Soto and his army to attack and seize power over a neighboring polity (Ethridge 2010). Once De Soto arrived at Chicaza, a chiefdom in northeast Mississippi, the chief used the favor of De Soto's large army to threaten and attack the insubordinate leaders of neighboring polities to further secure his single chiefly power over

others (Hudson 1997:265). The active role the natives played in contact interactions continued into the sixteenth century as the Europeans established a new capitalist economic exchange through the slave and fur trade.

Early contact-era studies viewed native groups as victims of an imperial power instead of active participants and economic and political entities interacting with Europeans and one another (Schortman and Urban 1998:104). World-systems theory identifies societies in relation to the capitalist world system and how these entities maintain those structures within a clearly defined role (Rice 2005:45). Scholars challenged Wallerstein's (1974) world-systems theory by including the active role Southeastern natives played in the capitalist economic system introduced by the Europeans (Stein 2005; Rice 2005). The core regions are central to the economic and political capitalist system because they manipulate and distribute goods through the global market for profit (Wolf 1982:22). The peripheries are identified as geographically distant and economically inferior to the core, which they provide labor and raw goods (Rice 2005:45). Between the core and periphery is the semi-periphery, which maintains more control over their own commerce than the periphery yet is restricted complete control of goods by the core (Ethridge 2009:17).

Contact studies today use a modern world systems theory that recognizes the role indigenous groups of the Southeast presented in the larger system of the global market through material culture (see Ethridge 2009, 2010; Galloway 1995). Artifacts identified from Native American contact-era sites demonstrate the persistence of native tradition through the manipulation of the global economy. Beads and metal trade goods found at contact sites provide evidence of this manipulation of interaction between natives and Europeans, particularly during the slave and fur trade (Galloway 1995:131). European trade goods were in use even in the

fifteenth century when De Soto and his men recognized several Spanish goods worn by the individuals of the chiefdom at Cofitachequi (Hudson 1997:177). The natives began to use European materials, such as glass and metal, to create items like bottle glass projectile points and copper kettles (Silliman 2009:213). Hahn (2002) presented some explanations on the so-called native "dependency" for European trade goods in the rise of the slave trade. He suggested that the need for guns was crucial to the continued success of a tribe's trading stock against others (Hahn 2002:108). Ethridge (2009:56n75) argued the same explanation could be used not only for guns but for all metal tools. Natives modified their own systems to accommodate and utilize European interactions (Galloway 1995:131).

Blackland Prairie Settlement

The ancestors of the Chickasaws occupied the river bottoms of the Tombigbee until a settlement shift northwest to the Blackland Prairie occurred during the contact period, around present day Tupelo, Mississippi (Ethridge 2010:74). The Blackland Prairie physiographic region of northeast Mississippi (Figure 1) consists of open prairies underlain with black clay loams over an outcrop of Selma chalk from the Cretaceous period (Lowe 1920:11). The heavy occurrence of fossil shell from the Selma chalk outcrop of the Blackland Prairie provided Chickasaw, with fossil shell temper, which archaeologists identify as a unique Chickasaw temper in ceramic wares (Jennings 1941, 1944).

The collapse of chiefdoms during the Mississippian period reflects the larger movement of natives across the Southeast. While the shatter zone was a product of European interaction that caused major upheaval, abandonment of areas during the Mississippian period were not uncommon (Hudson 1997). Archaeologists have debated the exact timing of this movement into the Blackland Prairie area (see Johnson 1991, 1996a, 1996b; Johnson and Sparks 1986; Rafferty

1995, 2002 Peacock and Rafferty 1996). Some (Johnson 1991, 1996a, 1997; Johnson and Sparks 1986) have suggested this settlement occurred in the early fifteenth century, prior to the De Soto *entrada*, as a less-centralized and dispersed occupation of small hamlets. Others (Rafferty 1995, 2002; Peacock and Rafferty 1996) have argued that the Blackland Prairie was continuously occupied during the Woodland through the Mississippian periods as small farmsteads associated with Tombigbee chiefdoms. Additional archaeological work and settlement data at sites in the Blackland Prairie should identify the exact chronology of this movement.

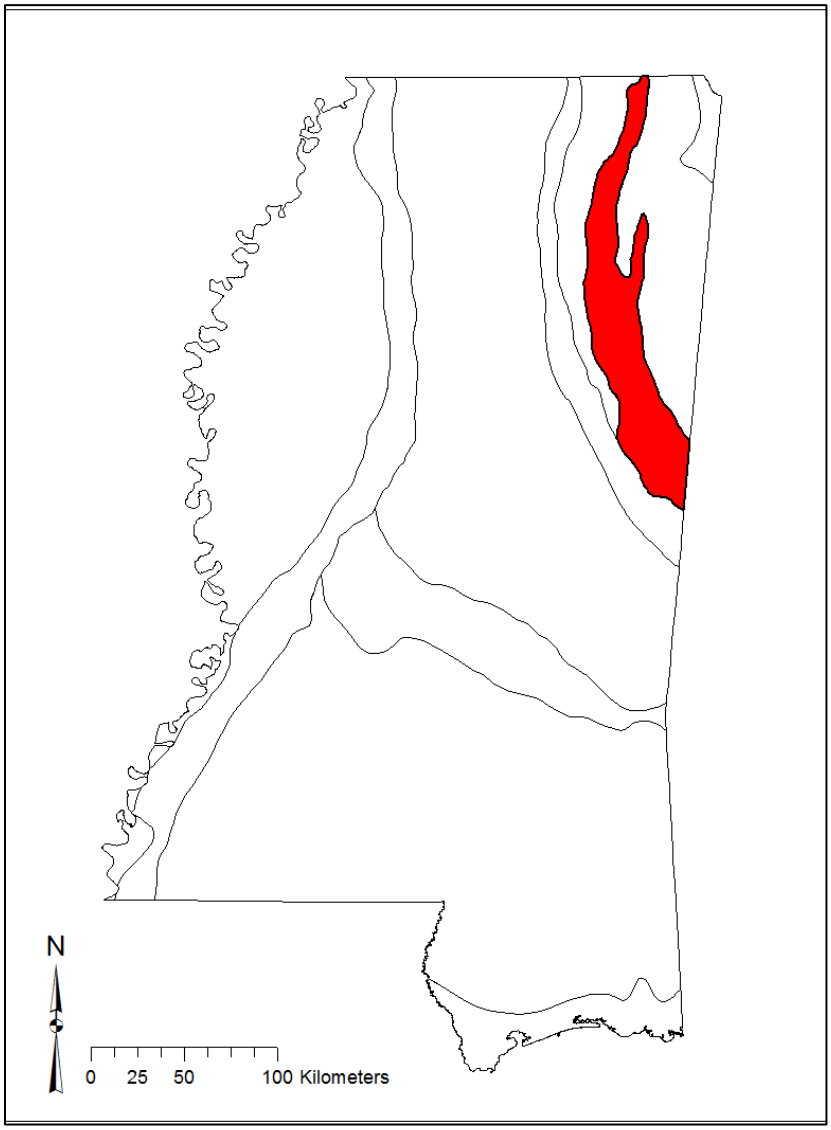

Figure 1. The Blackland Prairie physiographic region of Mississippi. Basemap from MARIS.

Ceramics

Pottery is made and used in the context of culture. The creation and use of ceramics in Native American communities displays the cultural interplay between individual groups of people and ceramic traditions (Hegmon 1998:265). Among Native Americans, these traditions, which persist through time, pass from one generation to the next and transform through the interactions between individuals who share their ceramic practice (Regnier 2014:13).

Previous archaeological analyses of ceramic wares used a culture-historical approach to connect cultural traditions to existing Native American groups temporally and spatially (see Phillips et al. 1951; Phillips 1970). One of the staple and significant ceramic chronologies of the Southeast and Mississippi is the Phillips, Ford, and Griffin (1951) survey of the Lower Mississippi Valley. Phillips, Ford, and Griffin used a culture-historical approach to type ceramic wares excavated from Mississippi archaeological sites and placed these types within time using seriation charts. Archaeologists still use the methodologies of the culture-historical approach through attribute analysis, but this methodology does not completely portray the variations of style present in ceramics (Hegmon 1998:265).

Ceramic artifacts offer more opportunity for understanding behavior than the mere chronological sequencing of patterns. Hegmon (1998) attempted to define the importance of style in ceramic practice to social interaction. She defined style as a social interplay between individual and society that is culturally significant to those that actively participate in a cultural context (Hegmon 1998:265).The ceramic ecology framework attempts to identify the processes in this social interplay. It considers the choices potters made when manufacturing pots, such as tempering material (Rice 2005). The selection of temper represents the decision of one material

over another and considers the material available to the potter within the surrounding environment (Rice 2005). This approach sees the role of the potter as an active and controlling agent in the manufacturing process of pottery. The function of human agency as a key factor for culture change is one that has been widely discussed (see Pauketat 2007; Beck 2009; Cobb 2009; Hally 2009; Johnson 2009). Agency is often used to recognize artifacts as a physical representation of a cultural construction (Pauketat and Alt 2005: 214). This is usually critiqued as a broad explanation that does not explain large-scale cultural processes, like the persistence of Mississippian hierarchal systems through hundreds of years (Hally 2009:101).

Multiple lines of inspiration can change traditional practices. These changes do not always constitute a more complex design but could suggest a shift to more simplified finishing or surface decorations (Rice 2005). The spread of shell as a tempering agent during the Mississippian period suggests a change towards a technological advantage that shifted ceramic tradition (Bronitsky 1989; Bronitsky and Hamer 1986; Feathers 1989 ;Steponaitis 2009:45). The Mississippian period Moundville ceramic assemblage research conducted by Steponaitis (1984) identified live shell temper as being more resistant to the thermal shock that causes pots to break while firing. He suggested that coarser shell-tempered pottery at Moundville was utilitarian wares, such as cooking vessels, while finer shell tempered wares were used for non-cooking tasks, like serving vessels (Steponaitis 2009:45).

The surface decorations on ceramic wares are indicative of certain traditions that have been learned and practiced. Archaeologists attempt to understand the meaning behind particular designs, specifically in connection with finer wares (Reilly and Graber 2007). For example, in the Southeast, Pauketat and Emerson (1991) conclude the decorations on Ramsey Incised jars at

Cahokia serve as a physical representation of ideological thought expressed by elite individuals. That is, the traditions introduced are ideas from elite members and practiced and shared by non-elite individuals, such as potters, to express religious and political ideas.

The continuity of traditions within ceramic practices suggests stability within the social organization of a group; however, the agency of individuals can explain some of the variability present in a ceramic assemblage (Wesson 2001). Practice theory provides a framework to understand the continuity or variability present in a ceramic assemblage. John Worth (2015) argues that specific identifiers are difficult to determine archaeologically for individuals; however, each individual artifact represents individual action to make, use, or modify an artifact. Therefore, it is the persistence or resistance of individual action that transforms cultural practice. This concept is important to understanding the role that Native Americans had when interacting with the Spanish. Through practice theory, natives are not seen as static entities passively accepting the changes in their landscapes, but as Native Americans shaping themselves and the surrounding environment.

Lastly, practice of certain behaviors creates and shapes the landscape inhabited. The communities of practice within a group suggest a shared practice created and learned in a particular geographic space in time (Worth 2015:50). Community implies an area of interactions and relationships between individuals. This environment promotes the sharing of ideas, or in this case, traditions, through the manufacturing process of making pottery (Worth 2015:50). The transformation of traditions would not be an individually based action, but subtle differences within the overall design could suggest a utilization of agency (Worth 2015:52).

The analysis of ceramic use and production can demonstrate behaviors within the archaeological record. Previous works identifying ceramic types though the culture-historical approach do not explain the variabilities or inconsistencies within the typologies. It also suggests a unilinear model and considers Native Americans to be static entities that allowed change. A greater emphasis on practice and agency demonstrates natives as acting and controlling agents within their surrounding landscapes.

The Stark Farm Site (22OK778)

A distinct clustering of sites that date to the Protohistoric period (A.D. 1500-1700) (Jeter 2009:368) in the Blackland Prairie of northeast Mississippi represents an archaeological complex identified as the Starkville Archaeological Complex (Atkinson 1979). Atkinson (1979) defined the Starkville Archaeological Complex as a dispersed settlement pattern with distinct ceramic assemblages associated with European metal. The ceramics were characterized as sandy Chickasaw pastes with distinct curvilinear or angular surface decorations of the Mississippians (Atkinson 1979:62). Atkinson (1979) also noted the presence of a small number of Late Mississippian ceramic wares, such as Parkin Punctated, as well as European trade items, including glass beads and metal.

Previous investigations at the Stark Farm Site suggested a late-prehistoric context based on the presence of unique ceramic wares in association with early European metal (Cobb et al. 2016). The pottery assemblage represents particular characteristics from both the Mississippian period and historic Chickasaw contexts. The ceramic assemblage from the Stark Farm Site suggests a context of pre-and post-contact natives in the region. Sites in the Starkville

Archaeological Complex can provide important information on contact-era sites and the effect of contact on Native Americans across the Southeast.

CHAPTER III: METHODS AND RESULTS AT THE STARK FARM SITE (22OK778)

Within northeastern Mississippi, the Blackland Prairie physiographic area contains multiple Protohistoric (A.D. 1500-1700) (Jeter 2009:368) archaeological sites with similar temporal and spatial patterns identified as the Starkville Archaeological Complex (Atkinson 1979). These sites are located in a dispersed pattern across upland ridges during the contact period and contain a distinct artifact pattern. Atkinson (1979) first identified these characteristics, drawing particular attention to the ceramic assemblages at the Rolling Hills site (22OK594) in Starkville, Mississippi. He described the ceramics as predominately live-shell tempered with distinct curvilinear or angular surface decorations and sandy pastes similar to historic Chickasaw pottery. Atkinson (1979) also noted a small number of Late Mississippian ceramic wares, such as Parkin Punctate, were present, as well as European trade items, including glass beads and metal. Based on these characteristics, Atkinson (1979:61) dated the occupation of Rolling Hills between the Late Mississippian period and 1718. Since that time, 252 Protohistoric sites have been recorded in Oktibbeha county in the Starkville Archaeological Complex region (Clark 2017). Today, these archaeological sites are of particular interest to archaeologists because of their location and possible association with early Europeans in northeast Mississippi.

Past Investigations

Investigations at the Stark Farm site (22OK778) began in 2014 as part of an archaeological survey of a larger 350-acre tract for a proposed development in Starkville, Mississippi (Rabby-Smith et al. 2015) (Figure 2).

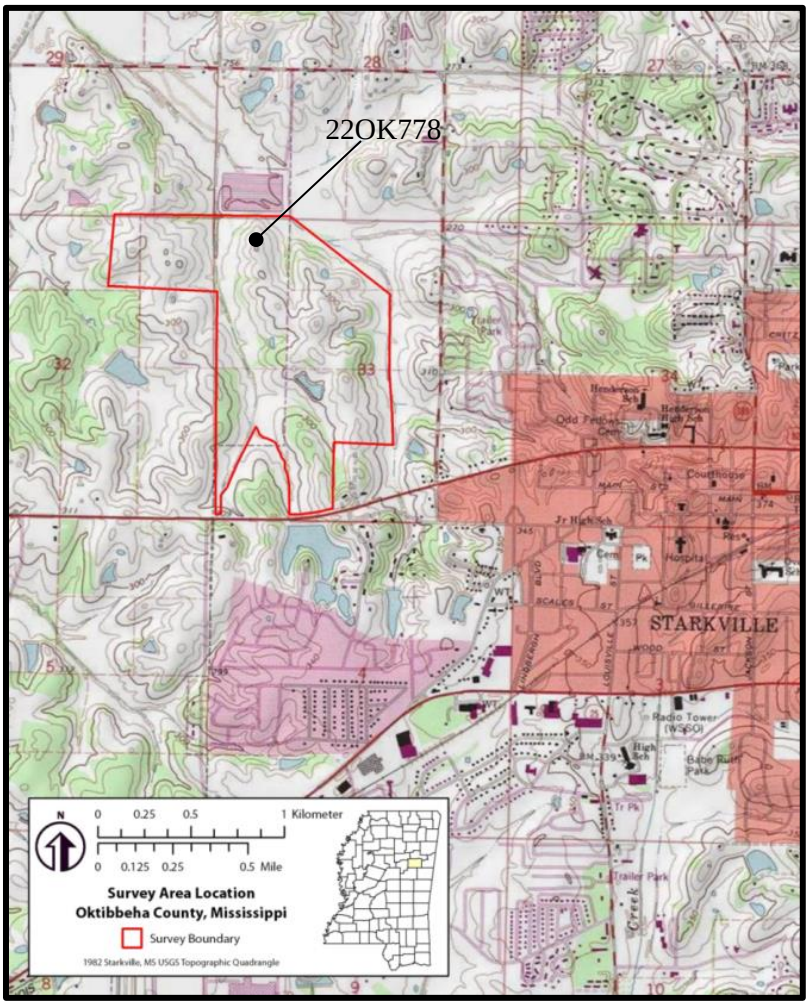

Figure 2. Development tract for 2014 investigations (Rabby-Smith et al. 2015:2).

Three previously identified sites (22OK778, 22OK779, and 22OK780) existed within the project boundaries. These sites were originally identified by Richard Walling in 1970 with different site numbers: 515-24, 515-25, and 515-26, respectively. Walling's report could not be found on file at the Mississippi Department of Archives and History (MDAH 2017). According

to the Mississippi State site file, Richard Marshall recorded sites 22OK778, 22OK779, and 22OK780 in 1992. Marshall recorded site 22OK778 as a late prehistoric site measuring 90-meters by 100-meters (MDAH 2017). Sites 22OK779 and 22OK780 were recorded as late prehistoric sites measuring 90-meters by 90- meters (MDAH 2017).

The 2014 investigations consisted of an intensive pedestrian shovel testing survey over the entire 350-acre tract at 30-meter intervals (Figure 3) (Rabby-Smith et al 2015:18). Radial shovel tests were placed at closer intervals (10-15 meters) if a positive shovel test pit was identified; therefore, portions of 22OK778 were tested at 15-meter intervals (Figure 3).

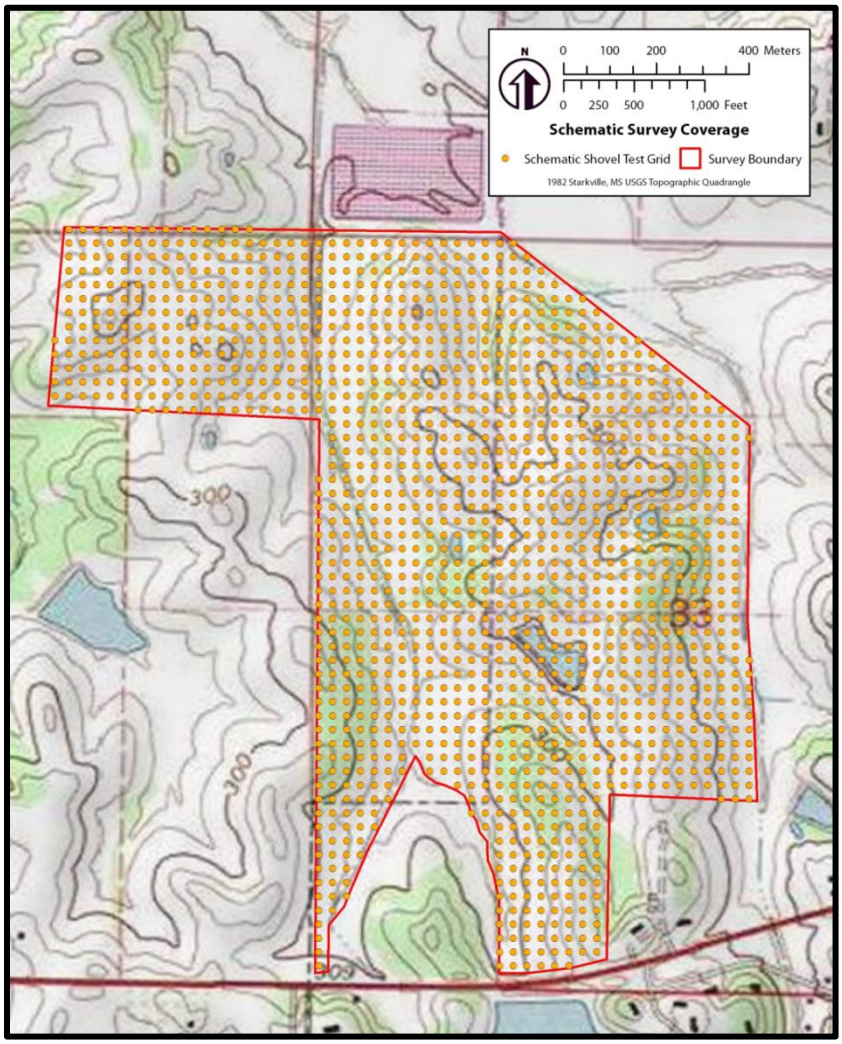

Figure 3. Schematic map of shovel tests conducted in 2014 (Rabby-Smith et al. 2015:31).

Of the1200 tests conducted over the entire area of potential effect, 70 (17.1%) contained cultural material (Rabby-Smith et al. 2015:44). A total of 423 artifacts were recovered from positive shovel tests. Artifacts included pottery, lithics, bone, and fired clay (Rabby-Smith 2015). A fairly continuous artifact scatter in the area of previously identified sites 22OK778, 22OK779, and 22OK780 suggested these sites were probably part of one site (Rabby-Smith et al. 2015:43). Rabby-Smith et al. (2015) suggested that these three sites should be combined into one archaeological site, 22OK778, with new site dimensions measuring 825-meters north-south by 325-meters east-west (Figure 4). The Mississippi State site file does not reflect this change as these sites are still recorded as three separate archaeological sites (MDAH 2017).

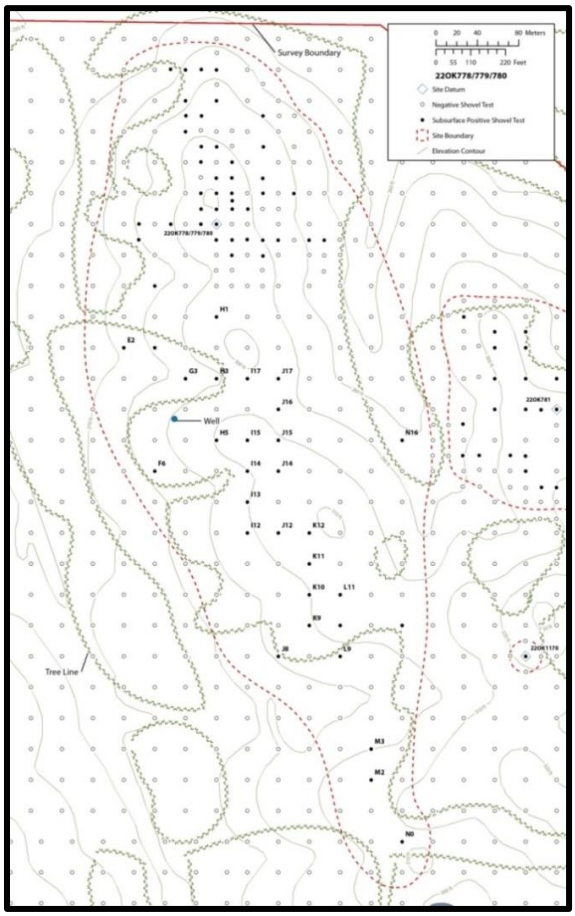

Figure 4. Shovel tests conducted at 22OK778, 22OK779, 22OK780 in 2014.

2015 Investigations

In 2015, a survey funded by the Chickasaw Nation contracted archaeologists from the Universities of Florida and South Carolina to identify ancestral Chickasaw archaeological sites (Cobb et al. 2016). Investigations revisited previously identified sites, including site 22OK778, to broaden the understanding of late prehistoric settlement associated with the Starkville Archaeological Complex. Hudson (1997), based on ethnographic research, suggested that the Hernando de Soto expedition passed through this area in 1540. The 2015 investigations determined that additional research and survey were needed to further identify this site's temporal occupation. A two-fold surface and subsurface methodology was used. Investigations focused on the prairie ridge bluffs associated with the Blackland Prairie district frequently occupied during the Protohistoric period (Cobb et al. 2016). Because the 2014 investigations conducted an intensive shovel testing survey, the 2015 excavations used metal detectors, soil cores, and test unit excavations to identify any subsurface features and diagnostic artifacts, particularly metal.

In total, 29 metal artifacts were recovered from metal detecting and test excavations at Site 22OK778 (Figure 5). All of these artifacts were made of iron, copper alloy, or lead and each showed evidence of reworking (Table 1) (Cobb et al. 2016). These metal objects (barrel bands, axe heads, and sheet metal) showed reworking characteristics like breaking, cutting, and grinding to produce tools like celts, scrapers, and personal adornments (pendants or bangles) (Cobb et al. 2016:70-85). These metal objects were subjected to portable x-ray fluorescence spectroscopy (pXRF) testing. The authors suggest some of these metal artifacts display specific signatures of sixteenth-century European metals (see Cobb et al. 2016:Appendix B).

Figure 5. Results of 2015 metal detector survey (Cobb et al. 2016:65).

Table 1. Metal artifacts recovered from 2015 investigations (Cobb et al. 2016).

Metal Type	Artifact Type	Possible Characteristics	Count
Iron	Nail	consistent with 16th Spanish nails	1
Iron	ring	crudely forged with ends overlapping	1
Iron	Barrel bands and fragments	grinding on one broken edge; consistent with 16th Spanish barrel band stock	2
Iron	Celt from barrel band	one example bifacially ground	4
Iron	Axe fragment	battered and flattened	1
Iron	Horseshoe fragment	Broken by bending	1
Iron	Celt from axe fragment	One example bifacially ground	3
Iron	Blade tool and fragments		2
Iron	strip		1
Copper/Copper Alloy	Pendant/Bangle	Ground edges	5
Copper/Copper Alloy	Tube Bead		1
Copper/Copper Alloy	Scrap/worked object/unidentified		5
Lead Alloy	Scrap/unidentified		2

An Oakfield tube core was used to excavate approximately 30-35 cores across the Stark Farm site (Figure 6). One transect of cores was placed running north-south every meter along a ridge top encountered deeper and darker soil profiles with fired-clay mottling (Lieb, personal communication 2017). Another transect placed west of the first line along a slope identified an intact midden deposit (Lieb, personal communication 2017). Both lines were used to determine locations for test excavations.

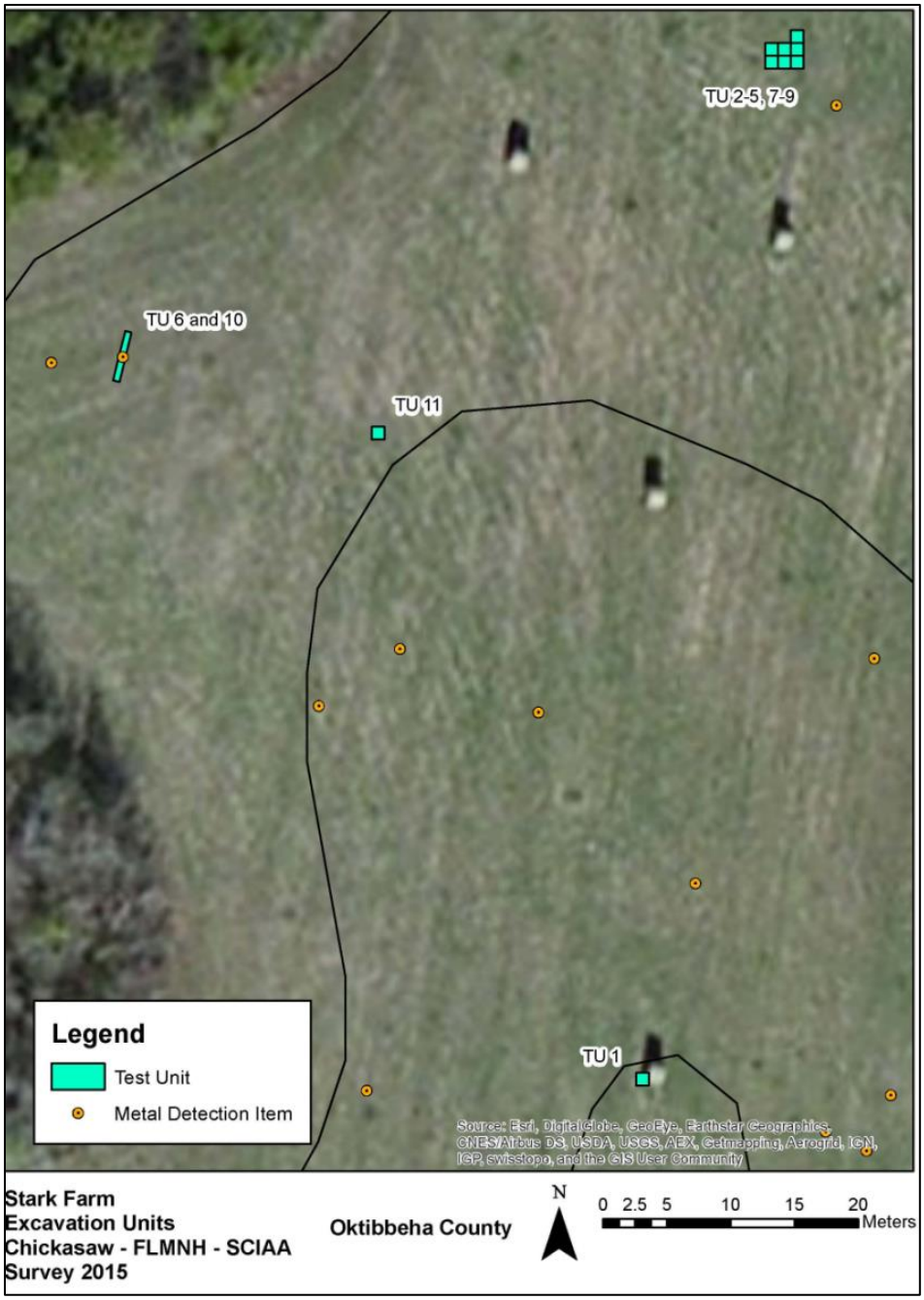

Figure 6. Test unit excavations (Cobb et al. 2016:93).

As a result of metal detecting and soil cores, 11 test units were placed across Site 22OK778. This included two non-adjacent 1 x 1-meter units, a block excavation of seven contiguous 1 x 1-meter units, and a trench excavation of two 0.50 x 2-meter units (see Figure 6). The following are descriptions of each test unit or block excavation.

Test Unit 1

Test unit 1 was a 1 x 1 meter test unit excavated in three natural levels to a total depth of 30 centimeters below surface (cmbs) (see Figure 6). Level 1 was a dark grayish brown (10YR 3/2) silty clay that extended from the surface to a depth of 20 cmbs. A total of 110 artifacts were recovered from Level 1; these consisted of pottery, lithics, and bone and a total of 72.3 grams (g) of fired clay and shell. No features were identified in this level. Level 2 was a brown (10YR 4/3) clay loam that extended from 20-30 cmbs. A total of 154 artifacts of pottery, lithics, and bone were recovered from Level 2, as was 117.5 g of fired clay and shell. Feature 1 was identified above the subsoil as a small post feature. Subsoil was encountered at 30 cmbs as a yellowish-brown (10YR 5/4) clay (Cobb et al. 2016).

Test Units 2-5 and 7-9

Test units 2, 3, 4, 5, 7, 8, and 9 were a contiguous block of 1 x 1-meter test units placed to identify intact deposits found in soil cores (see Figure 6). Each unit was excavated in two natural levels to a total depth of 30 cmbs. Level 1 was a brown (10YR 5/3) silty clay loam that extended from the surface to 25 cmbs. A total of 1,003 artifacts of pottery, lithics, and bone, and a total of 759.9 grams of fired clay, shell, and charcoal were recovered from Level 1. An iron barrel band refashioned into a chisel tip was recovered at 25cmbs. A dark yellowish-brown (10 YR 4/6) clay subsoil was identified at 30 cmbs.

Eleven potential pit and post features were identified at 30 cmbs (Figure 7) (Cobb et. al 2016:96). Material from these features were recovered for soil samples and screened for artifacts. Cobb et. al (2016:96) notes there is no obvious pattern to the features; however, additional investigations could determine an architectural feature (Cobb et al. 2016:95).

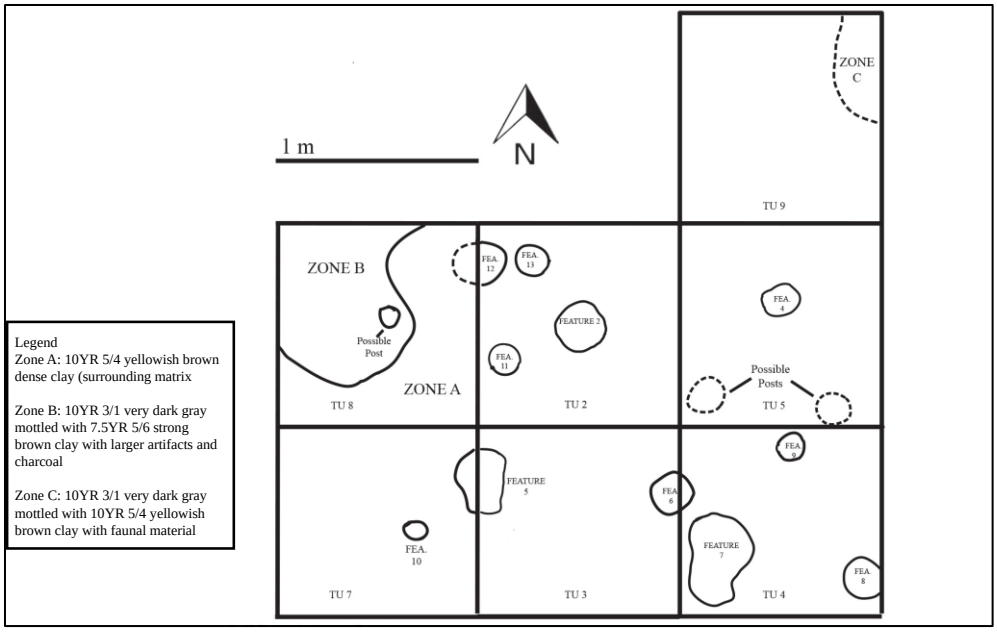

Figure 7. Plan view of Test Units 2, 3, 4, 5, 7, 8, and 9 from 2015 investigations (Cobb et al. 2016:95).

Test Units 6 and 10

Test units 6 and 10 were contiguous 0.5 x 2-meter test units placed to delineate a large pit feature identified during soil core testing (see Figure 6). Two features were identified in these test units. Feature 14 was a 4 x 5-meter pit located at 30 cmbs that reached a total depth of 60 cmbs (Figure 8). The pit was shallower towards the plow zone in the southern half of the trench. The midden fill was a grayish brown (10YR 3/2) silty clay with charcoal and fired clay fragments (Cobb et al. 2016:96).

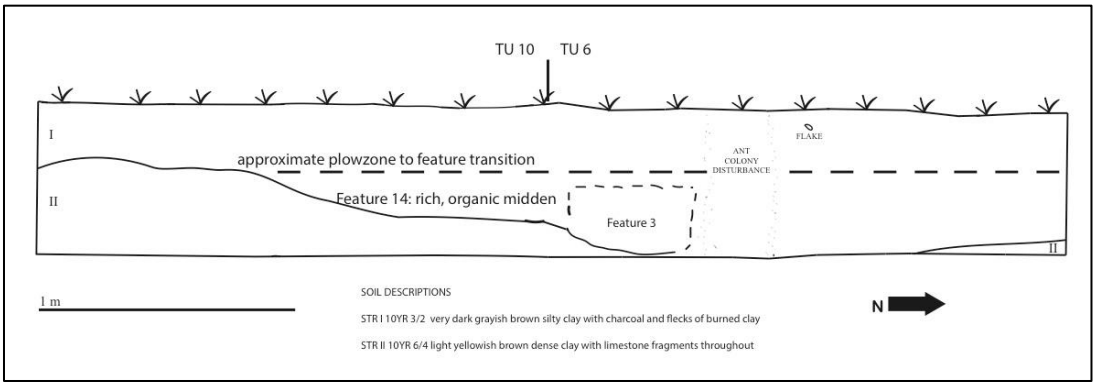

Figure 8. Profile map of Feature 14 from 2015 investigations (Cobb et al. 2016:94).

Feature 3 was located at 30 cmbs in the southwest corner of Test Unit 6. The pit feature measured approximately 45 centimeters (cm) deep and the feature fill was a grayish brown (10YR 4/2) clayey silt. The feature was identified based on concentrations of burned bone and antler, pottery, shell, fired clay, and charcoal.

Cobb et al. (2016:96) suggested Feature 14 was an example of a midden-filled pit, or *okaafinafa'* found at historic Chickasaw sites. Some have suggested these large pits were used to excavate clay for daub to plaster houses and re-filled rapidly after use (Jennings 1941; Johnson 2000:101; Lieb 2004:5-7; O'Hear and Ryba 1998). The homogenous soil profile suggests a single depositional deposit of domestic debris. Cobb et al. (2016:98) notes these pits may have served several purposes for structures nearby based on the intrusive pit of bone, pottery shell, fired clay, and charcoal (Feature 3) found in Feature 14.

Test Unit 11

Test Unit 11 was a 1 x 1-meter test unit placed to identify a potential feature found during soil core testing, but there was not any clear evidence for features (see Figure 6) (Cobb et. al 2016:98). This unit was excavated in two natural layers that reached a total depth of 35 cmbs. Level 1 was a very dark grayish brown (10YR 3/2) silty clay that extended to a depth of 25 cmbs. A dark yellowish-brown (10YR 4/6) clay subsoil was encountered at 25 cmbs. Artifacts included pottery, bone, fired clay, and lithics.

2016 Investigations

Investigations in 2016 focused on determining site type and temporal occupation (Boudreaux et al. 2017). Toward this end, and based on previous results, investigations focused on additional feature excavations. First, geophysical testing was conducted across approximately

five acres, including some of the previously excavated units from 2015. To do this, an arbitrary datum was set at 500E/500N along the ridge top, east of the 2015 excavations (Figure 9).

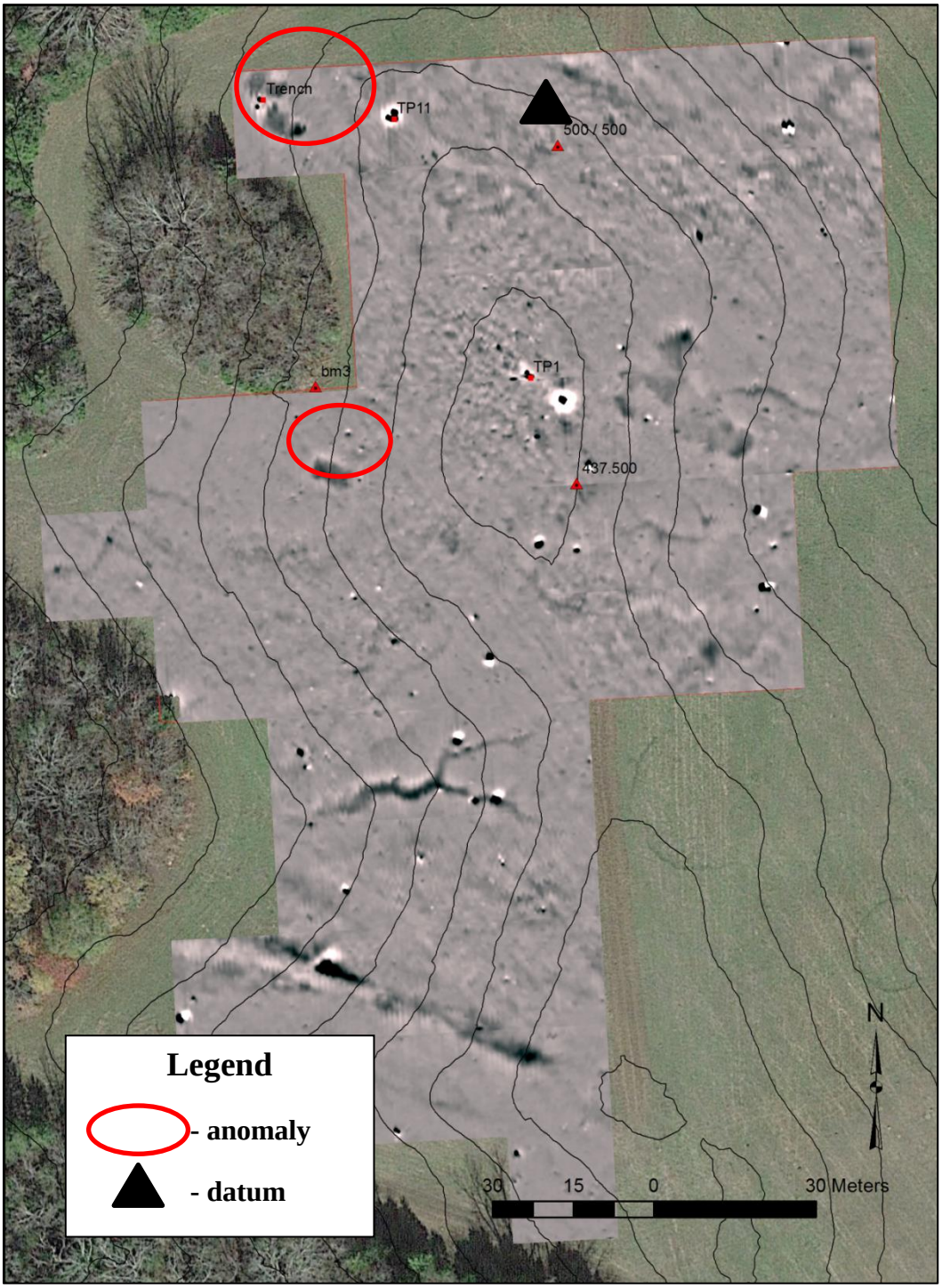

Figure 9. Gradiometer data compiled by Jay Johnson.

A dual-sensor Bartington gradiometer identified several anomalies (see Figure 9). At the northwestern edge of the site at the location of the 2015 test units 6 and 10, three semi-circular anomalies between two and six meters in diameter were identified. In addition, 70-meters south of the semi-circular anomalies, the gradiometer survey identified a dark, rectangular anomaly (see Figure 9) measuring approximately 4-meters north/south by 7-meters east/west. The gradiometer survey did not cover the 2015 block excavations located in the northeast portion of the site (TU 2-5 and 7-9).

To investigate the semi-circular anomalies, 11 contiguous 2 x 2-meter test units were placed to identify feature edges (Figure 10). All test units in the Northern Block were excavated using flat shovels and recorded using natural layers. Two levels were identified: Level 1, approximately 15 cm (0-15 cmbs) thick and Level 2, approximately 5 cm (16-21 cmbs) thick. Two test units (451E/505N and 453E/505N) (Figure 11) contained Level 3, approximately 10 cm (22-32 cmbs) thick, where a clear distinction between Level 2 or feature fill was more difficult to identify. The features were identified by the appearance of a dark brown (10 YR 6/4) clay.

Features were further divided into zones based on soil characteristics, which consisted of a dark midden soil (Zone 1 and 2), though it was difficult to determine separate zones within the dark feature fill in the profile view. All features were excavated using flat shovels and ten liter float samples were taken from both zones. Feature 14 was previously identified in 2015 investigations and we used the same numbering for the pit feature found within the corresponding units. Seventy meters south of the northern block units, two contiguous 2 x 2-meter test units were placed to investigate the rectangular anomaly (see Figure 10). Both units in the Southern Block were excavated using flat shovels and recorded using natural layers.

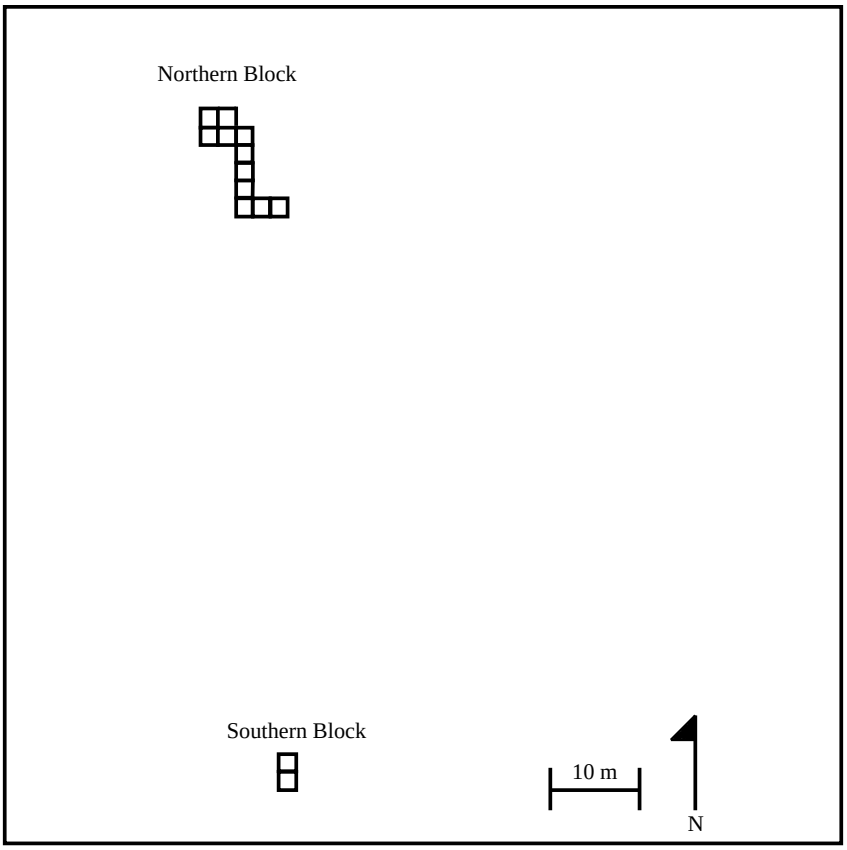

Figure 10. Excavation units from 2016 excavations at Stark Farm.

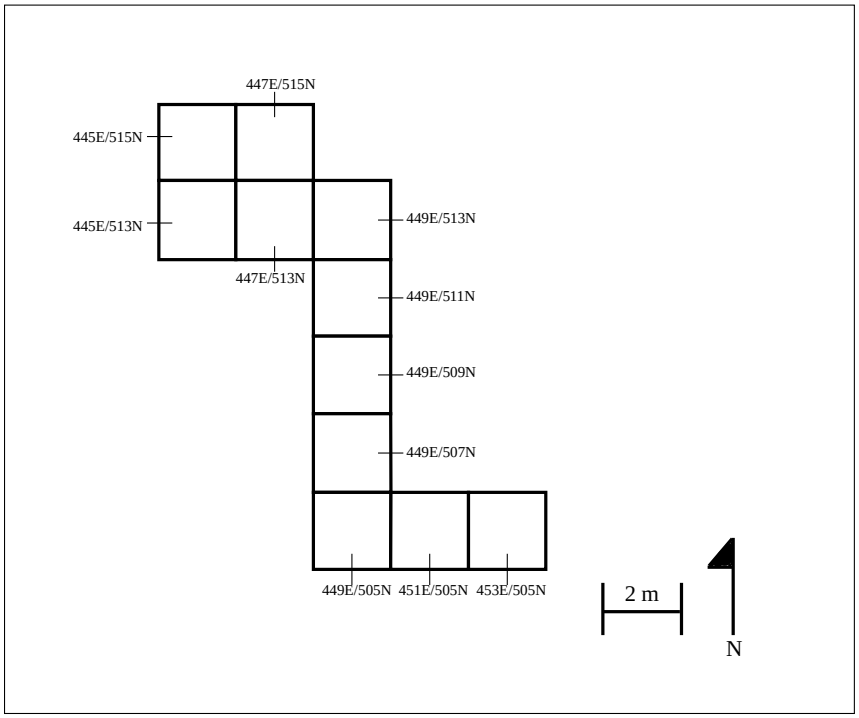

Figure 11. Close up of excavation units from northern block.

Four levels were identified: Level 1, at 20 cmbs, Level 2, at 44 cmbs, Level 3, at 62 cmbs, and Level 4, at 69 cmbs. Feature 17 was identified for this anomaly.

All excavations were conducted using flat shovels and material was transported 400 meters southeast to a water-screening station. Any material found in the screens was bagged for transport and processing at the University of Mississippi Archaeology Laboratories. Following are descriptions of each test unit and feature identified during excavations

Feature 14

Feature 14 was identified and assigned a feature number during the 2015 investigations. Feature 14 spans five test units (TUs 445E/513, 445E/515N, 447E/513N, 447E/515N, 449E/513N) (Figure 12) and measures approximately seven meters in diameter. A light yellowish brown (10YR 6/4) silt indicated the top of Feature 14, which appeared oval in shape. Because Feature 14 was so large, and because it made up the entirety of these units, Test Units 445E/513N and 447E/513N served as a southern cross-section of the feature. The southern half of Feature 14 was excavated to a depth of 54 cmbs, while the northern half of the feature was shallower at 50 cmbs (Figure 13).

Two zones were identified within the feature based on differences in soil color. Zone 1 was a light yellowish brown (10YR 6/4) silt, 20 cms thick and extended from 18-38 cmbs. Zone 2 was a reddish brown (2.5YR 4/3) dense clay, 16 cms thick and extended from 38-54 cmbs. A total of 16,199 artifacts were excavated from Feature 14 (Table 2). Of these, the majority of artifact types recovered were fired clay, bone, and pottery (see Table 2). At the bottom of Zone 2, subsoil was encountered.

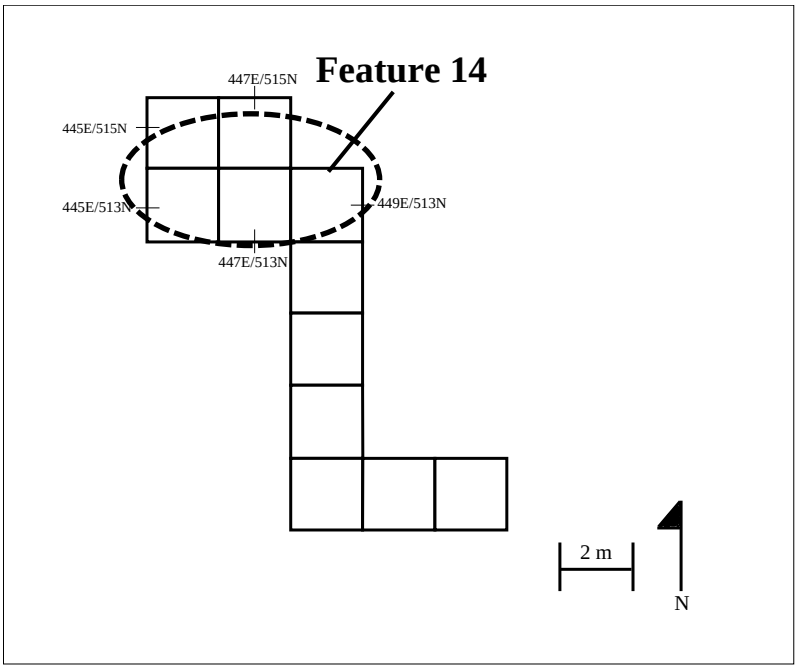

Figure 12. Feature 14 excavation units.

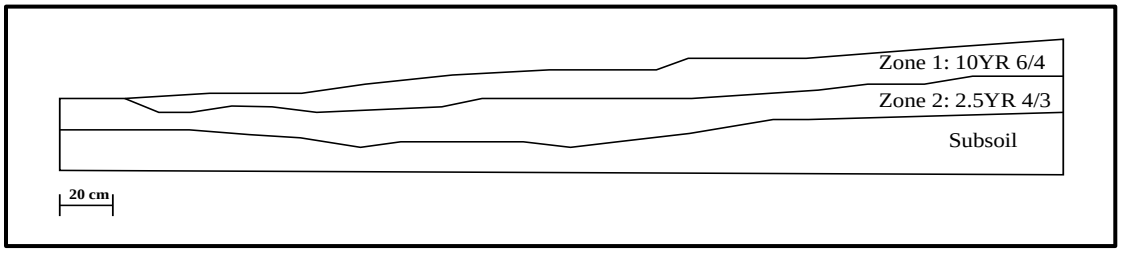

Figure 13. Feature 14 north profile.

Table 2. Artifacts recovered from Feature 14.						
Artifact Type	**Zone 1**		**Zone 2**		**Total**	
	(n)	**%**	**(n)**	**%**	**(n)**	**%**
Pottery	1,933	13.7%	575	33.2%	2,568	15.8%
Lithics	131	0.9%	12	0.69%	143	0.8%
Bone	4,448	31.01%	206	11.9%	4,694	28.9%
Fired clay	6,577	45.4%	706	40.8%	7,283	44.9%
Fossil	476	3.2%	198	11.4%	674	4.1%
Live shell	294	2.03%	19	1.09%	313	1.9%
Possible metal	62	0.4%	10	0.5%	72	0.4%
Charcoal	448	3.09%	4	0.23%	452	2.7%
Total	14,469	100%	1,730	100%	16,199	100%

Test Unit 445E/515N

Test Unit 445E/515N was a 2 x 2-meter test unit placed to investigate an anomaly identified during the gradiometer survey. A portion of this anomaly was excavated in the 2015 investigations (in TUs 6 and 10); additional excavations were done to further define discrete boundaries. This test unit was excavated in two natural levels to a total depth of 34 cmbs. Level 1 was a dark gray (10YR 3/1) clay loam that extended from the surface to a depth of 11 cmbs. No features were present in this level; however, a compact brown (10 YR 2/3) subsoil was encountered in the northeastern portion of the test unit. Level 2 was a dark grayish-brown (10YR 4/2) silt that extended to a depth of 34 cmbs. A total of 4,656 artifacts were recovered from Test Unit 445E/515N (Table 3). The majority of artifact types recovered were fired clay, bone, and pottery (see Table 3). At the bottom of Level 2, Feature 14 was encountered in the southeastern corner of the test unit (Figure 14).

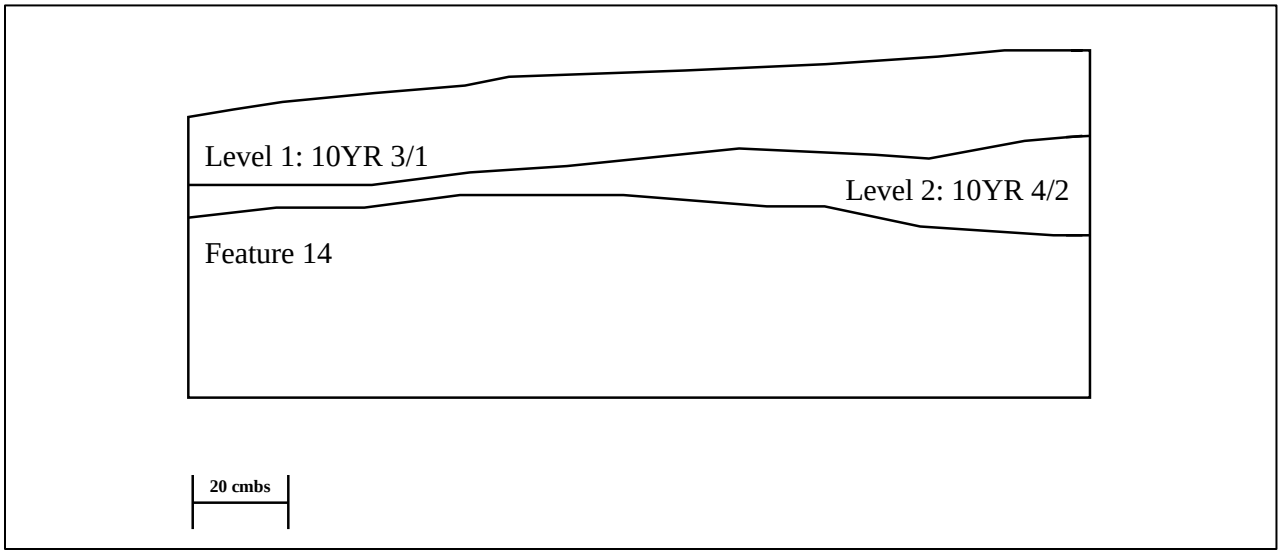

Figure 14. North profile of 445E/515N.

Table 3. Artifacts recovered from Test Unit 445E/515N.						
Artifact Type	**Level 1**		**Level 2**		**Total**	
	(n)	**%**	**(n)**	**%**	**(n)**	**%**
Pottery	779	36.5%	499	19.7%	1,278	27.4%
Lithics	160	7.5%	51	2.0%	211	4.5%
Bone	222	10.4%	1,008	39.8%	1,230	26.4%
Fired clay	773	36.3%	760	30.1%	1,533	32.9%
Fossil	149	6.9%	113	4.4%	262	5.6%
Live shell	38	1.7%	23	0.9%	61	1.3%
Possible metal	7	0.3%	34	1.3%	41	0.8%
Charcoal	1	0.04%	39	1.5%	40	0.8%
Total	2,129	100%	2,527	100%	4,656	100%

Test Unit 445E/513N

Test Unit 445E/513N was a 2 x 2-meter test unit placed to investigate the anomaly identified during the gradiometer survey (see Figure 9). This test unit was excavated in two natural levels to a total depth of 36 cmbs. Level 1 was dark grayish-brown (10YR 4/2) clay that extended from the surface to a depth of 18 cmbs. No features were present in this level. Level 2 was a dark brown (10YR 2/2) silt that extended to a depth of 36 cmbs. A total of 4,455 artifacts were recovered from Test Unit 445E/513N (Table 4). The majority of artifact types recovered were fired clay, bone, and pottery (see Table 4). At an approximate depth of 36 cmbs, Feature 14 was identified (Figure 15).

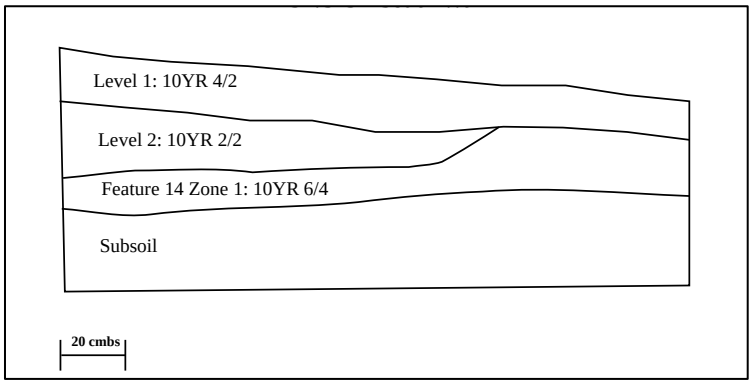

Figure 15. South profile of 445E/513N.

Table 4. Artifacts recovered from Test Unit 445E/513N.						
Artifact Type	**Level 1**		**Level 2**		**Total**	
	(n)	**%**	**(n)**	**%**	**(n)**	**%**
Pottery	567	34.7%	426	15.1%	993	22.2%
Lithics	173	10.6%	51	1.8%	224	5.0%
Bone	221	13.5%	886	31.3%	1,107	24.8%
Fired clay	505	30.9%	1,157	40.9%	1,662	37.3%
Fossil	127	7.7%	71	2.5%	198	4.4%
Live shell	31	1.8%	51	1.85%	82	1.8%
Possible metal	4	0.2%	21	0.7%	25	0.5%
Charcoal	4	0.2%	160	5.6%	164	3.6%
Total	1,632	100%	2,823	100%	4,445	100%

Test Unit 447E/513N

Test Unit 447E/513N was a 2 x 2-meter test unit placed to investigate an anomaly identified during the gradiometer survey. This test unit uncovered a portion of the anomaly investigated in 2015, including previous excavation units (TUs 6 and 10). This unit was excavated in two natural levels to a total depth of 37 cmbs. Level 1 was a dark brown (10YR 4/2) silt that extended from the surface to 18 cmbs. No features were present in this level. A light yellowish-brown (10YR 6/4) subsoil was encountered at 15 cmbs extending from the southern wall to the northeast corner of the test unit (Figure 16). This mottled soil was identified as Test Units 6 and 10 from the 2015 investigations. The trench backfill was excavated, and the soil profile served as a guideline for excavating Feature 14. Level 2 was a dark brown (10YR 2/4) clay that extended to a depth of 37 cmbs. A total of 4,044 artifacts were recovered from Test Unit 445E/515N (Table 5). The majority of artifact types recovered were fired clay, pottery, and bone (see Table 5). At an approximate depth of 37 cmbs, Feature 14 was identified (Figure 16).

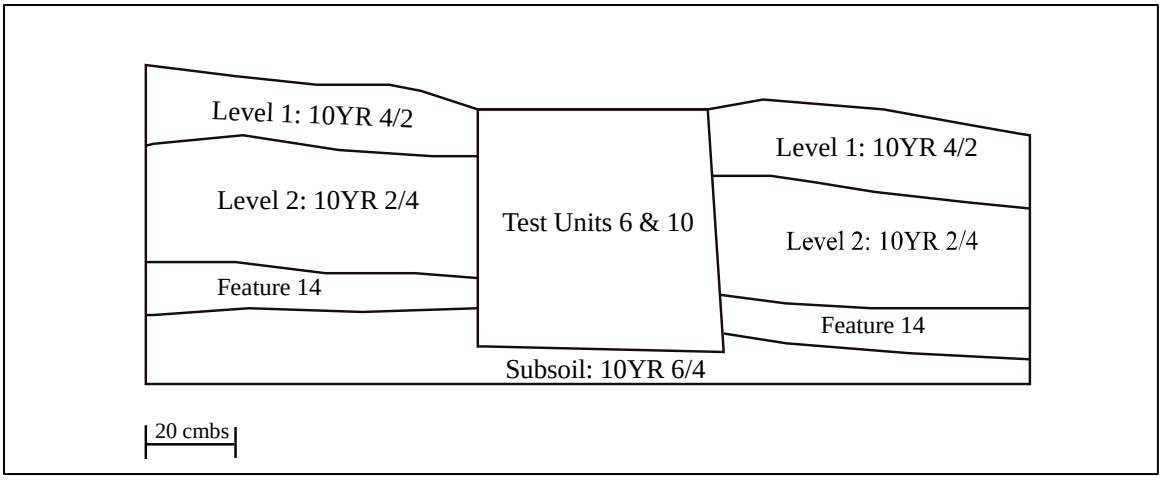

Figure 16. South profile of 447E/513N.

Table 5. Artifacts recovered from Test Unit 447E/513N.						
Artifact Type	**Level 1**		**Level 2**		**Total**	
	(n)	**%**	**(n)**	**%**	**(n)**	**%**
Pottery	779	28.7%	333	24.5%	1,112	27.4%
Lithics	262	9.6%	42	3.1%	304	7.5%
Bone	352	12.9%	311	23.2%	663	16.3%
Fired clay	1,110	40.9%	504	37.7%	1,614	39.9%
Fossil	134	4.9%	107	8.01%	241	5.9%
Live shell	57	2.1%	26	1.9%	83	2.05%
Possible metal	13	0.4%	9	0.6%	22	0.5%
Charcoal	2	0.07%	3	0.2%	5	0.4%
Total	2,709	100%	1,335	100%	4,044	100%

Test Unit 447E/515N

Test Unit 447E/515N was a 2 x 2-meter test unit placed to further delineate an anomaly identified during the gradiometer survey. This test unit was excavated in two natural levels to a total depth of 22 cmbs. Level 1 was a dark grayish brown (10YR 4/2) silt that extended from the surface to 12 cmbs. No features were present in this level. Level 2 was a dark brown (10YR 2/2) clay that extended to a depth of 22 cmbs. A total of 4,668 artifacts were recovered from Test Unit 447E/515N (Table 6). The majority of artifact types were fired clay, pottery, and bone (see Table 6). At an approximate depth of 22 cmbs, Feature 14 was identified (Figure 17).

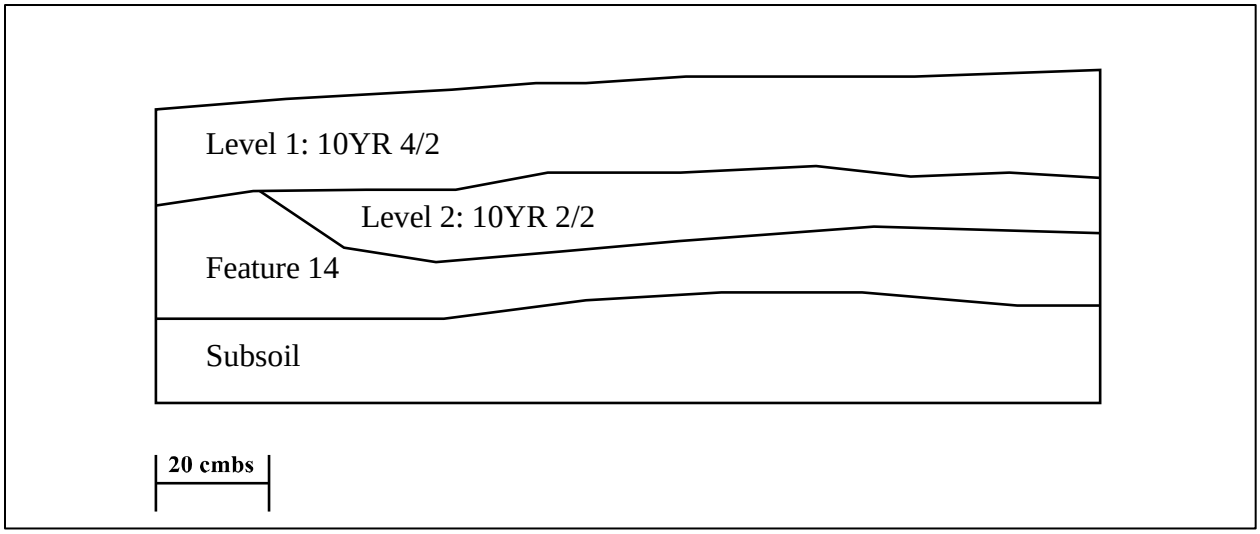

Figure 17. Soil profile of 447E/515N.

Table 6. Artifacts recovered from Test Unit 447E/515N.						
Artifact Type	**Level 1**		**Level 2**		**Total**	
	(n)	**%**	**(n)**	**%**	**(n)**	**%**
Pottery	683	25.1%	388	19.9%	1,071	22.9%
Lithics	233	8.5%	68	3.4%	301	6.4%
Bone	361	13.2%	667	34.2%	1,028	22.02%
Fired clay	1,260	46.2%	560	28.7%	1,820	38.9%
Fossil	122	4.4%	184	9.4%	306	6.5%
Live shell	62	2.2%	35	1.7%	97	2.07%
Possible metal	1	0.03%	20	1.02%	21	0.4%
Charcoal	-	-	24	0.05%	24	0.5%
Total	2,722	100%	1,946	100%	4,668	100%

Test Unit 449E/513N

Test Unit 449E/513N was a 2 x 2-meter test unit placed to investigate an anomaly identified during the gradiometer survey. This test unit was excavated in two natural levels to a total depth of 25 cmbs. Level 1 was a dark grayish-brown (10YR 3/2) silt that extended from the surface to 18 cmbs. No features were present in this level. Level 2 was a dark brown (10YR 2/4) clay that extended to a depth of 25 cmbs (Figure 18). A total of 7,261 artifacts were recovered from Test Unit 449E/513N (Table 7). The majority of artifact types recovered were fired clay, pottery, and bone (see Table 7). At approximately 25 cmbs, Feature 14 was identified. Feature 14

was not excavated in this test unit due to time constraints. Efforts were focused on units with the likelihood of uncovering discrete boundaries of the feature.

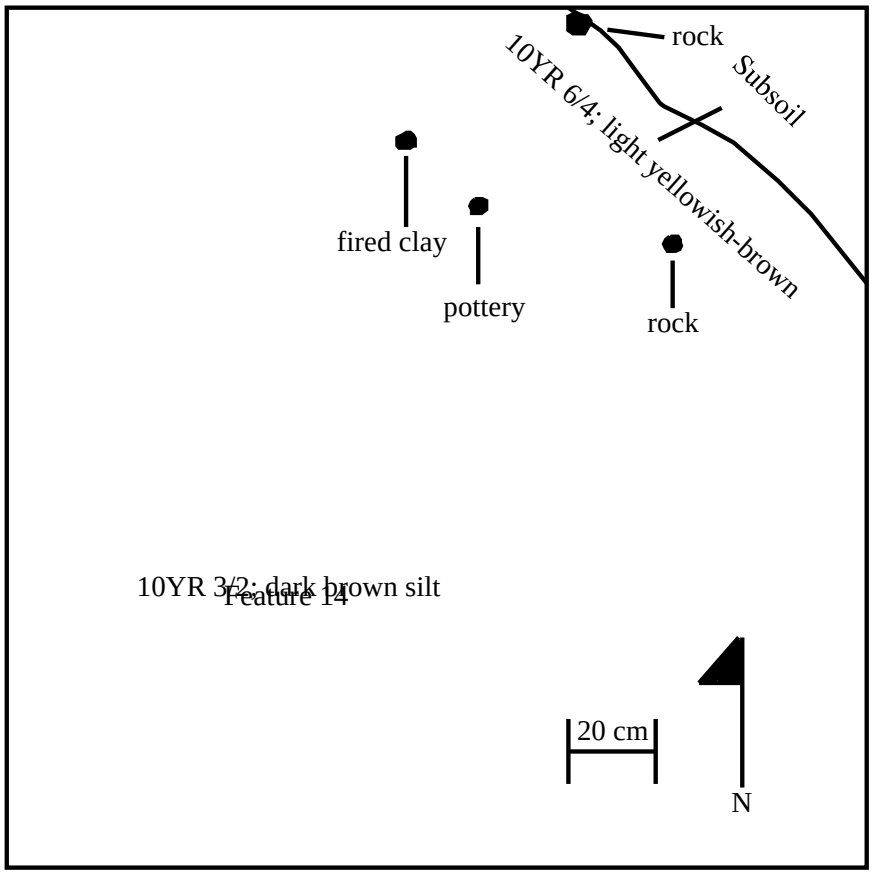

Figure 18. Plan view of 449E/513N at the bottom of Level 2.

Table 7. Artifacts recovered from Test Unit 449E/513N						
Artifact Type	**Level 1**		**Level 2**		**Total**	
	(n)	**%**	**(n)**	**%**	**(n)**	**%**
Pottery	1,254	32.0%	612	18.3%	1,866	25.6%
Lithics	393	10.03%	123	12.3%	516	7.1%
Bone	529	13.5%	869	25.9%	1,398	19.2%
Fired clay	1,420	36.2%	1,190	35.5%	2,610	35.9%
Fossil	250	6.3%	491	14.6%	741	10.2%
Live shell	52	1.3%	43	1.2%	95	1.3%
Possible metal	20	0.5%	8	0.2%	28	0.3%
Charcoal	-	-	7	0.2%	7	0.09%
Total	3,918	100%	3,343	100%	7,261	100%

Feature 15

Feature 15 was encountered in two test units (TUs 451E/505N and 453E/505N) and measured two meters in diameter with an oval shape (Figure 19). A dark yellowish brown (10YR 4/4) indicated the top of Feature 15 at a depth of 18 cmbs in Test Unit 453E/505N.

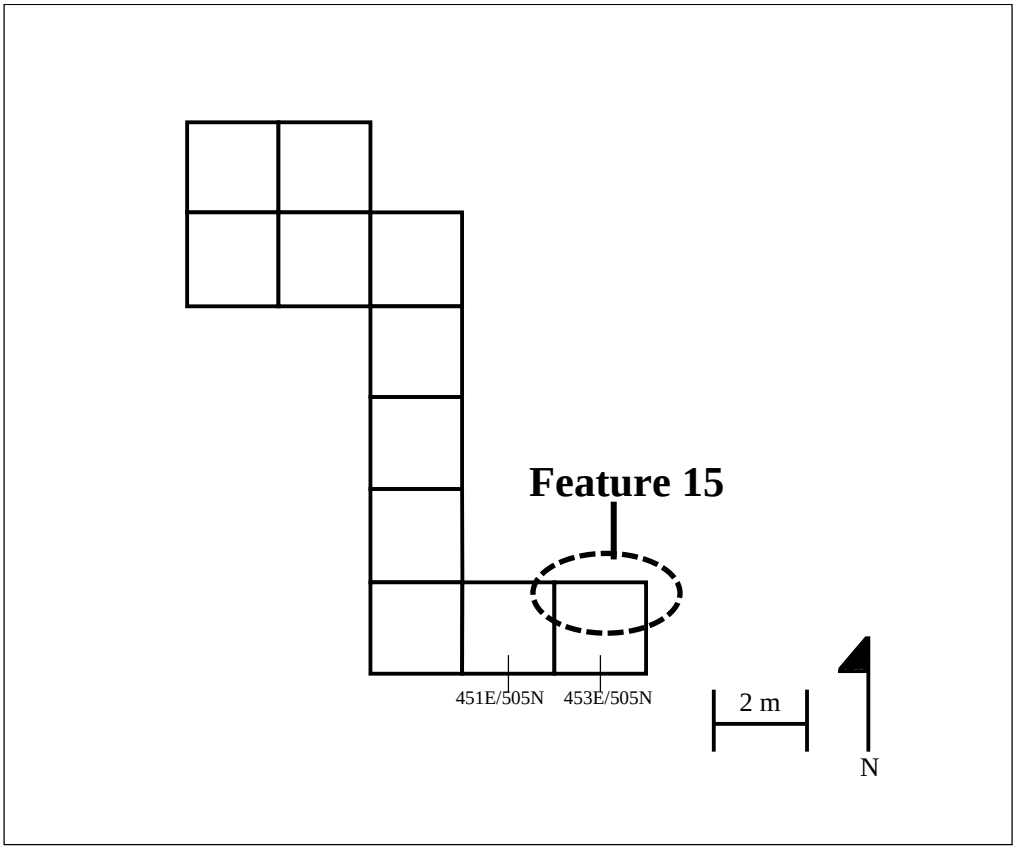

Figure 19. Feature 15 test units.

More of Feature 15 appeared in Test Unit 451E/505N at 36 cmbs. A portion of a brown (10YR 5/3) subsoil intruded at 15 cmbs in the northeast corner of test unit 453E/505N, suggesting a corner of the feature. Identifying differences in the soils between plow zone and midden fill became difficult due to similar soil color. An increase in artifact density indicated the top of Feature 15. A cross-section of the feature was conducted to reveal a profile in Test Unit 453E/505N. The western half of the feature was excavated first, which identified two zones

based on differences in soil color. Zone 1 was a pale brown (10YR 4/3) silt, 18 cms thick, extending from 26-44 cmbs. Zone 2 was a mottled, compact brown (10YR 7/4) clay, 6 cms thick, extending from 44-50 cmbs. A total of 3,917 artifacts were recovered from Feature 15 (Table 8). The majority of artifact types recovered were fired clay, bone, and pottery (see Table 8).. At the bottom of Zone 2, subsoil was encountered (Figure 20).

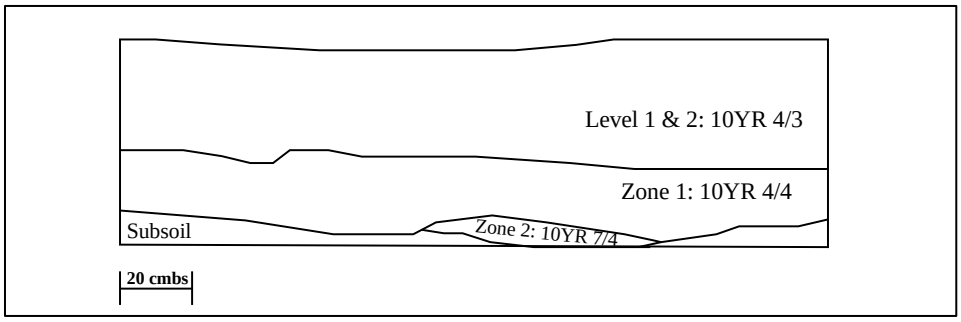

Figure 20. South profile of Feature 15.

Table 8. Artifacts recovered from Feature 15.

Artifact Type	Zone 1		Zone 2		Total	
	(n)	%	(n)	%	(n)	%
Pottery	414	11.8%	26	6.1%	440	11.2%
Lithics	51	1.4%	2	0.4%	53	1.3%
Bone	584	16.7%	207	48.3%	791	20.1%
Fired clay	2,106	60.3%	75	17.5%	2,181	55.6%
Fossil	260	7.4%	108	25.2%	368	9.3%
Live shell	32	0.9%	1	0.2%	33	0.8%
Possible metal	19	0.5%	2	0.4%	21	0.5%
Charcoal	23	0.6%	7	1.6%	30	0.7%
Total	3,489	100%	428	100%	3,917	100%

Test Unit 453E/505N

Test Unit 453E/505N was a 2 x 2-meter test unit placed to investigate an anomaly identified during the gradiometer survey. The anomaly was an amorphous shape located in the southeastern corner of the northern block of excavations (Figure 21). This test unit was excavated in three natural levels to a total depth of 36 cmbs. Level 1 was a dark grayish-brown

(10YR 3/2) clay that extended from the surface to a depth of 20 cmbs. A brown (10YR 5/3) compact clay subsoil with limestone mottling was identified in the northeast and southwest corner at approximately 20 cmbs in this test unit. No features were present in this level. Level 2 was a dark grayish-brown (10YR 3/2) silt that extended from 20-25 cmbs. No features were present in Level 2. Level 3 was a yellowish-brown (10YR 5/4) silt that extended from 25-36 cmbs. A total of 7,555 artifacts were recovered from test unit 453E/505N (Table 9). The majority of artifact types recovered were fired clay, pottery, and fossils. At approximately 36 cmbs, Feature 15 was identified (see Figure 21).

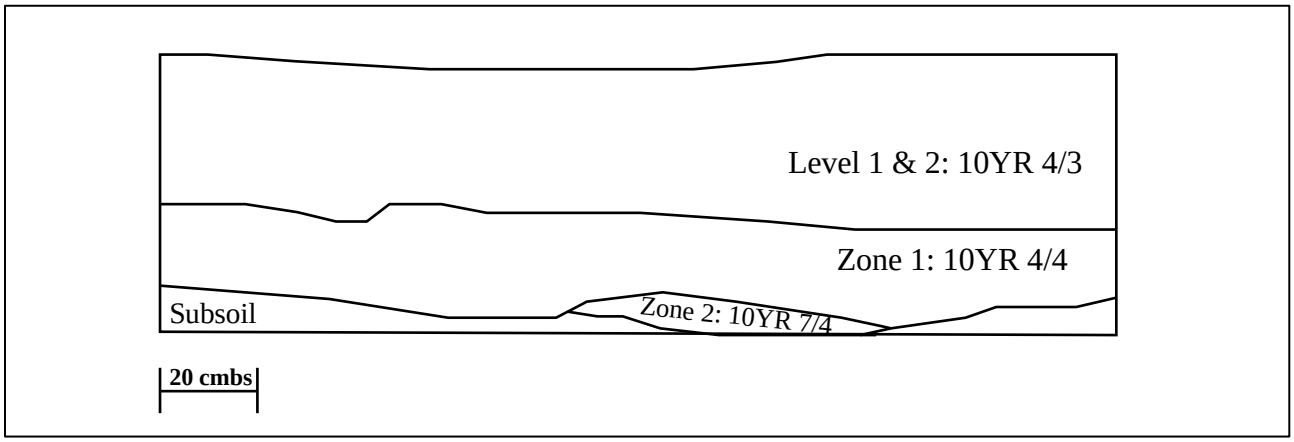

Figure 21. South profile of 453E/505N.

Table 9. Artifacts recovered from Test Unit 453E/505N.

Artifact Type	Level 1		Level 2		Level 3		Total	
	(n)	%	(n)	%	(n)	%	(n)	%
Pottery	1,112	23.1%	283	24.2%	429	27.1%	1,824	24.1%
Lithics	474	9.8%	63	5.3%	99	6.2%	99	8.4%
Bone	717	14.9%	190	16.2%	363	22.9%	363	16.8%
Fired clay	1,420	29.5%	464	39.7%	501	31.6%	501	31.5%
Fossil	972	20.2%	147	12.5%	159	10.04%	159	16.9%
Live shell	76	1.5%	13	1.1%	18	1.1%	18	1.4%
Possible metal	34	0.7%	6	0.5%	8	0.5%	8	0.6%
Charcoal	-	-	1	0.08%	6	0.3%	6	0.09%
Total	4,805	100%	1,167	100%	1,583	100%	1,583	100%

Feature 16

Feature 16 spans five test units (TUs 449E/505N, 449E/507E, 449E/509N, 449E/511N, and 451E/505N) and measures seven meters by four meters wide in diameter (Figure 22). The feature was not completely excavated; therefore, only approximate measurements of the feature are provided based on excavated test units. Two zones were identified within the feature. Zone 1 was a reddish brown (2.5YR 4/3) silt, 40 cms thick extending from 34-74 cmbs. The feature became deeper towards the southern portion of the feature in Test Unit 449E/509N. Zone 2 was a light reddish brown (2.5 YR 7/4) silt, 12 cms thick extended from 54-66 cmbs (Figure 23). A total of 10,842 artifacts were excavated from Feature 16 (Table 10). The majority of artifact types recovered were fired clay, pottery, and fossils (see Table 10).

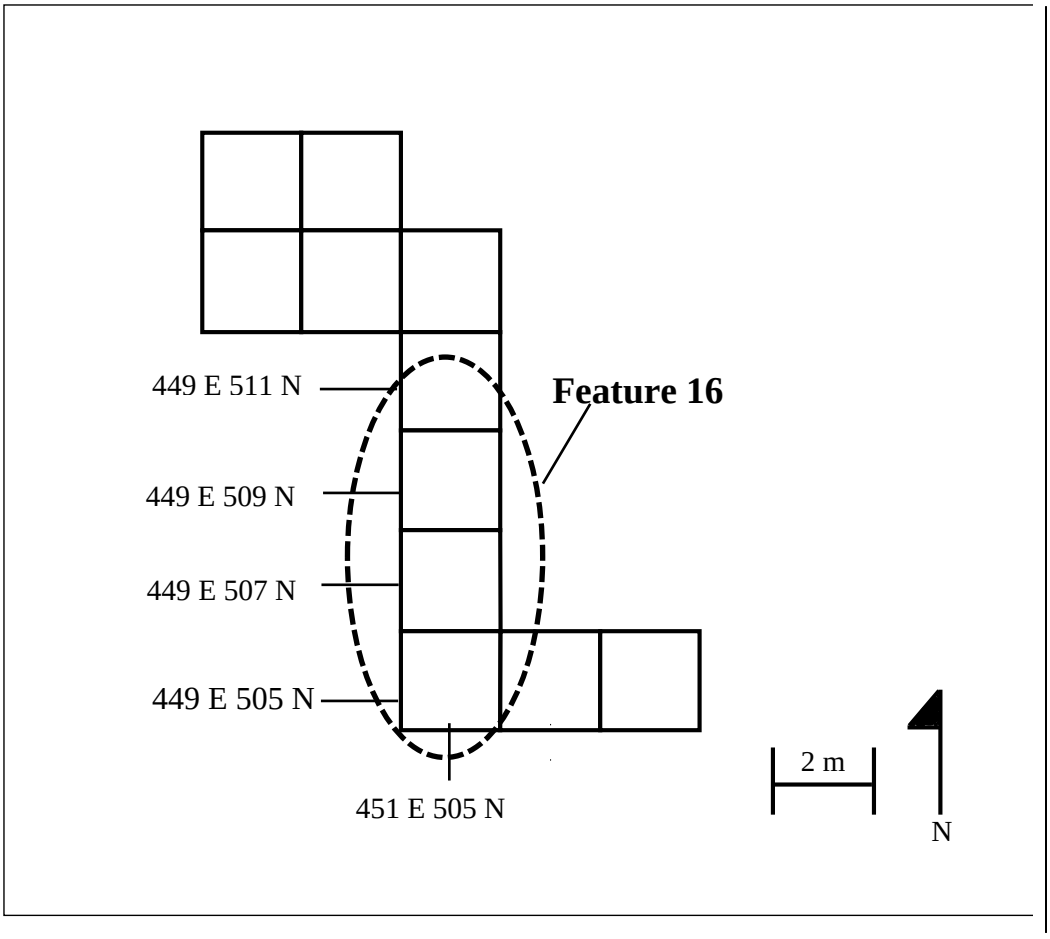

Figure 22. Feature 16 test units.

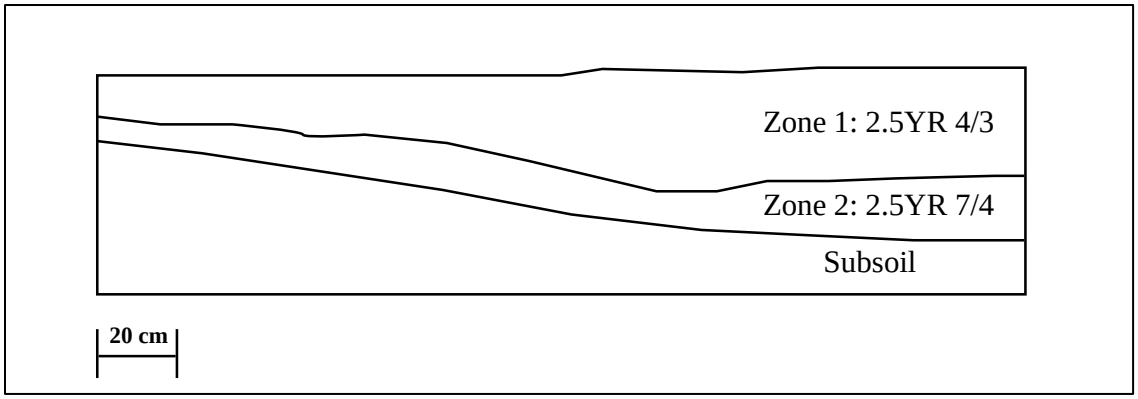

Figure 23. West profile of Feature 16.

Table 10. Artifacts recovered from Feature 16.

Artifact Type	Zone 1		Zone 2		Total	
	(n)	%	(n)	%	(n)	%
Pottery	1,430	14.3%	80	8.9%	1,510	13.9%
Lithics	79	0.7%	6	0.6%	85	0.7%
Bone	1,833	18.4%	74	8.3%	1,907	17.5%
Fired clay	5,178	52.0%	260	29.2%	5,438	50.1%
Fossil	1,005	10.1%	461	51.7%	1,466	13.5%
Live shell	147	1.4%	3	0.3%	150	1.8%
Possible metal	32	0.3%	6	0.6%	38	0.35%
Charcoal	245	2.4%	-	-	245	2.2%
Beads	3	0.03%	-	-	3	0.02%
Total	9,952	100%	890	100%	10,842	100%

Test Unit 449E/509N

Test unit 449E/509N was a 2x2-meter test unit placed to identify an edge between Features 14 and 16. This test unit was excavated in two natural layers to a total depth of 50 cmbs. Level 1 was a dark grayish-brown (10YR 3/2) silt that extended from the surface to a depth of 20 cmbs. A mottled brown (10YR 5/3) subsoil was present along the eastern and southern wall at 20 cmbs. No features were identified in this level. Level 2 was a dark brown (10YR 2/4) clay with flecks of fired clay that extended from 20-45 cmbs. A brownish-yellow (10YR 6/6) compact clay with chalk was present along the northern and eastern wall at 45 cmbs. A total of 7,149 artifacts were recovered from Test Unit 449E/509N (Table 11). The majority of artifact types recovered

were pottery, fired clay, and fossil (see Table 11). At 45 cmbs, Feature 16 was identified (Figure 24)

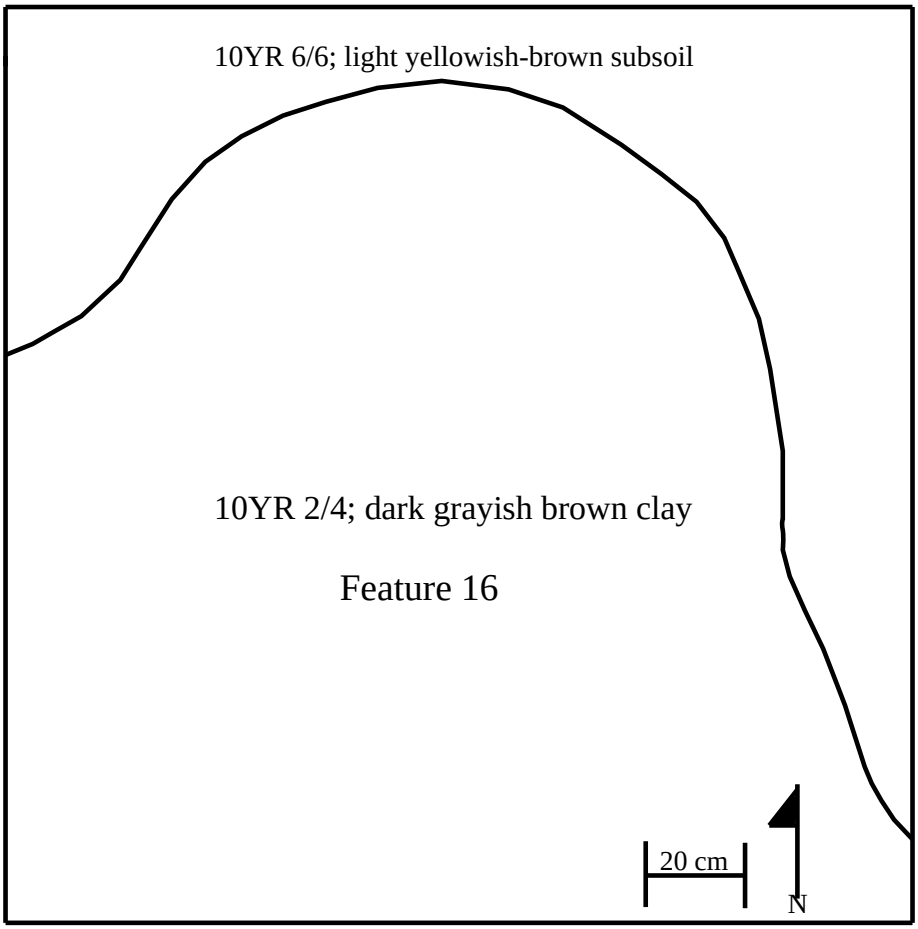

Figure 24. Plan view of 449E/509N at the bottom of Level 2

Table 11. Artifacts recovered from Test Unit 449E/509N.

Artifact Type	Level 1		Level 2		Total	
	(n)	%	(n)	%	(n)	%
Pottery	1,811	30.3%	217	14.9%	2,028	28.3%
Lithics	664	11.1%	12	0.85	676	9.4%
Bone	1,044	17.5%	375	25.7%	1,419	19.8%
Fired clay	1,428	23.9%	581	39.9%	2,009	28.1%
Fossil	890	14.9%	225	15.4%	1,115	15.5%
Live shell	99	1.6%	30	2.06%	129	1.8%
Possible metal	27	0.4%	4	0.2%	31	0.4%
Charcoal	2	0.03%	10	0.6%	12	0.1%
Total	5,965	100%	1,454	100%	7,149	100%

Test Unit 449E/511N[1]

Test unit 449E/511N was a 2 x 2-meter test unit placed to delineate boundaries of an anomaly identified during the gradiometer survey. This test unit was excavated in two natural levels to a total depth of 43 cmbs. Level 1 was a dark gray (10YR 3/1) clay that extended from the surface to a depth of 20 cmbs. A reddish brown (2.5YR 5/3) subsoil was present at 20 cmbs in the southern 1/3 of the test unit. No features were identified in this level. Level 2 was a dark brown (10YR 2/4) clay that extended from 20-43 cmbs. A brownish-yellow (10YR 6/6) subsoil was present along the southwest to southeast corner of the unit at 20 cmbs. A total of 7,786 artifacts were recovered from Test Unit 449E/511N (Table 12). The majority of artifact types recovered were fired clay, pottery, and bone (see table 12). Feature 16 was identified at 43 cmbs.

Table 12. Artifacts recovered from Test Unit 449E/511N.

Artifact Type	Level 1		Level 2		Total	
	(n)	%	(n)	%	(n)	%
Pottery	2,140	31.8%	147	13.8%	2,287	29.3%
Lithics	537	7.9%	28	2.6%	565	7.2%
Bone	1,051	15.6%	348	32.7%	1,399	17.9%
Fired clay	2,382	35.4%	423	39.8%	2,805	36.02%
Fossil	375	5.5%	44	4.1%	419	5.3%
Live shell	168	2.4%	48	4.5%	216	2.7%
Possible metal	66	0.9%	7	0.6%	73	0.9%
Charcoal	6	0.08%	16	1.5%	22	0.2%
Total	6,725	100%	1,061	100%	7,786	100%

Test Unit 449E/505N

Test Unit 449E/505N was a 2 x 2-meter test unit placed to further delineate an anomaly identified during the gradiometer survey. This test unit was excavated in two natural levels to a total depth of 30 cmbs. Level 1 was a dark brown (10YR 3/3) silt that extended from the surface to 20 cmbs. A yellowish-brown (10YR 5/4) subsoil was present in the southwestern corner at 20

[1] Plan views for Test Units 449E/511N, 449E/505N, and 449E/507N were not created in the field because of undifferentiated feature fill and time constraints.

cmbs. No features were identified in this level. Level 2 was a dark grayish-brown (10YR 3/2) clay that extended from 20-30 cmbs. A total of 6,349 artifacts were recovered from test unit 449E/505N (Table 13). The majority of artifact types recovered were fired clay, fossil, and pottery (see Table 13). A light yellowish-brown (10YR 6/4) clay subsoil was present in the southwestern corner at 30 cmbs. Feature 16 was identified at 30 cmbs.

Table 13. Artifacts recovered from Test Unit 449E/505N.

Artifact Type	Level 1		Level 2		Total	
	(n)	%	(n)	%	(n)	%
Pottery	1,363	24.2%	105	14.2%	1,468	23.1%
Lithics	380	6.7%	8	1.08%	388	6.1%
Bone	711	12.6%	121	16.4%	832	13.1%
Fired clay	1,790	31.8%	237	32.1%	2,027	31.9%
Fossil	1,240	22.09%	259	35.1%	1,499	23.6%
Live shell	99	1.7%	7	0.9%	106	1.6%
Possible metal	26	0.4%	-	-	26	0.4%
Charcoal	3	0.05%	-	-	3	0.04%
Total	5,612	100%	737	100%	6,349	100%

Test Unit 449E/507N

Test Unit 449E/507N was a 2 x 2-meter test unit placed to investigate an anomaly identified during the gradiometer survey. This test unit was excavated in two natural levels to a total depth of 35 cmbs. Level 1 was a dark brown (10YR 3/3) clay that extended from the surface to a depth of 13 cmbs. No features were present in this level. Level 2 was a dark grayish-brown (10YR3/2) clay that extended to a depth of 35 cmbs. Feature 16 was identied at 35 cmbs. Feature 16 was not excavated in this test unit due to the limited amount of field time. Efforts were focused on units with the likelihood of uncovering discrete boundaries of the feature. A total of 3,322 artifacts were recovered from Test Unit 449E/507N (Table 14). The majority of artifact types recovered were pottery, fired clay, and bone (see Table 14).

Table 14. Artifacts recovered from Test Unit 449E/507N.						
Artifact Type	**Level 1**		**Level 2**		**Total**	
	(n)	**%**	**(n)**	**%**	**(n)**	**%**
Pottery	1,004	37.3%	172	27.1%	1,176	35.4%
Lithics	264	9.8%	6	0.9%	270	8.1%
Bone	344	12.7%	130	20.5%	474	14.2%
Fired clay	798	29.6%	263	41.4%	1,061	31.6%
Fossil	178	6.6%	28	4.4%	206	6.2%
Live shell	68	2.5%	32	5.04%	100	3.01%
Possible metal	32	1.1%	3	0.4%	35	1.05%
Charcoal	-	-	-	-	-	-
Total	2,688	100%	634	100%	3,332	100%

Test Unit 451E/505N

Test Unit 451E/505N was a 2 x 2-meter test unit to further determine Feature 15; however, a large portion of the unit exposed a portion of Feature 16. This test unit was excavated in three natural levels to a total depth of 51 cmbs. Level 1 was a dark grayish-brown (10YR 3/2) silt that extended from the surface to a depth of 15 cmbs. A brown (10YR 5/3) compact subsoil was present at 15 cmbs within the east half of the test unit. No features were identified at this level. Level 2 was a grayish-brown (10YR 3/2) clay that extended from 15-26 cmbs. The brown (10YR 5/3) compact subsoil present in Level 1 was present in Level 2 at 26 cmbs within the eastern half of the unit. No features were identified in Level 2. Level 3 was a brown (10YR 4/3) silt that extended from 26-52 cmbs. At a depth 50 cmbs, Features 15 and 16 were identified. A portion of Feature 15 appeared within the eastern half of the unit. Feature 16 extended from the central portion of the unit to the western wall (Figure 25). A total of 6,398 artifacts were recovered from Test Unit 451E/505N (Table 15). The majority of artifact types recovered were pottery, fired clay, and bone (see Table 15).

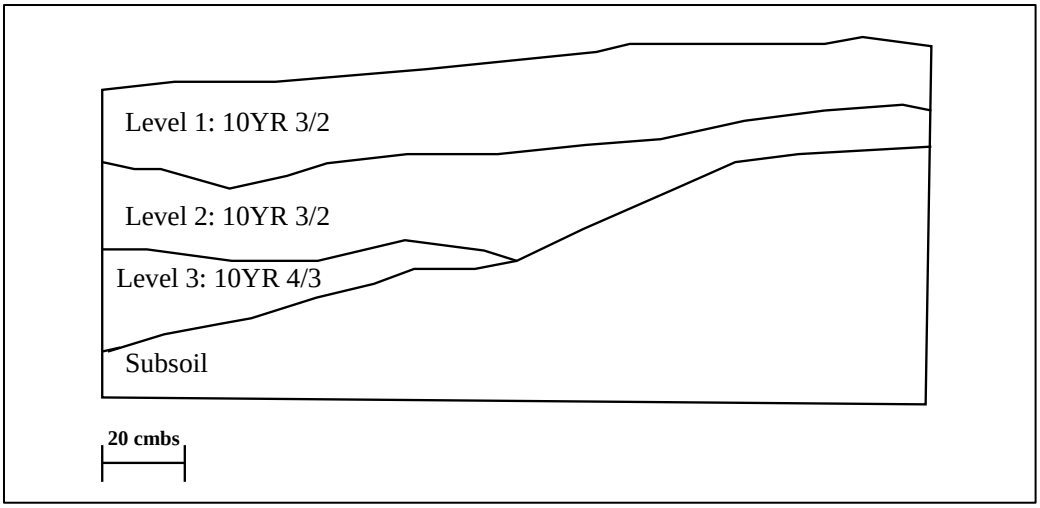

Figure 25. North profile of 451E/505N.

Table 15. Artifacts recovered from Test Unit 451E/505N.

Artifact Type	Level 1		Level 2		Level 3		Total	
	(n)	%	(n)	%	(n)	%	(n)	%
Pottery	1,492	36.9%	210	18.6	279	22.6%	1,981	30.95
Lithics	406	10.04%	24	2.1	17	1.3%	447	6.9%
Bone	581	14.3%	70	6.2	388	31.5%	1,039	16.2%
Fired clay	1,095	27.09%	560	49.7	376	30.5%	2,031	31.7%
Fossil	309	7.6%	229	20.3	111	9.01%	649	10.1%
Live shell	127	3.1%	11	0.9	51	4.1%	189	2.9%
Possible metal	32	0.7%	21	1.8	6	0.4%	59	0.9%
Charcoal	-	-	-	-	3	0.25	3	0.04%
Total	4,402	100%	1,125	100%	1,231	100%	6,398	100%

Feature 17

Feature 17 spans two test units (TUs 454E/440N and 454E/442N) and measured 4 meters north/south by 7 meters east/west (Figure 26). The feature was not completely excavated; therefore, only approximate measurements can be given based on which units were excavated. Two levels were identified within the feature. Level 1 was a dark gray (10YR 3/1) clay, 18 cms thick, that extended to a depth of 44-62 cmbs. The yellowish-brown (10YR 5/4) subsoil present in the plow zone continued to appear in the northern half of the test unit. No features were

identified in this level. Level 2 was a dark gray (10YR 3/1) clay, 7 cms thick that extended to a depth of 62-69 cmbs. At the bottom of Level 2, subsoil was encountered. No artifacts were present at 69 cmbs (Figure 27). A total of 3,408 artifacts were excavated from Feature 17. The majority of artifact types recovered were fossils, pottery and fired clay (see Table 16).

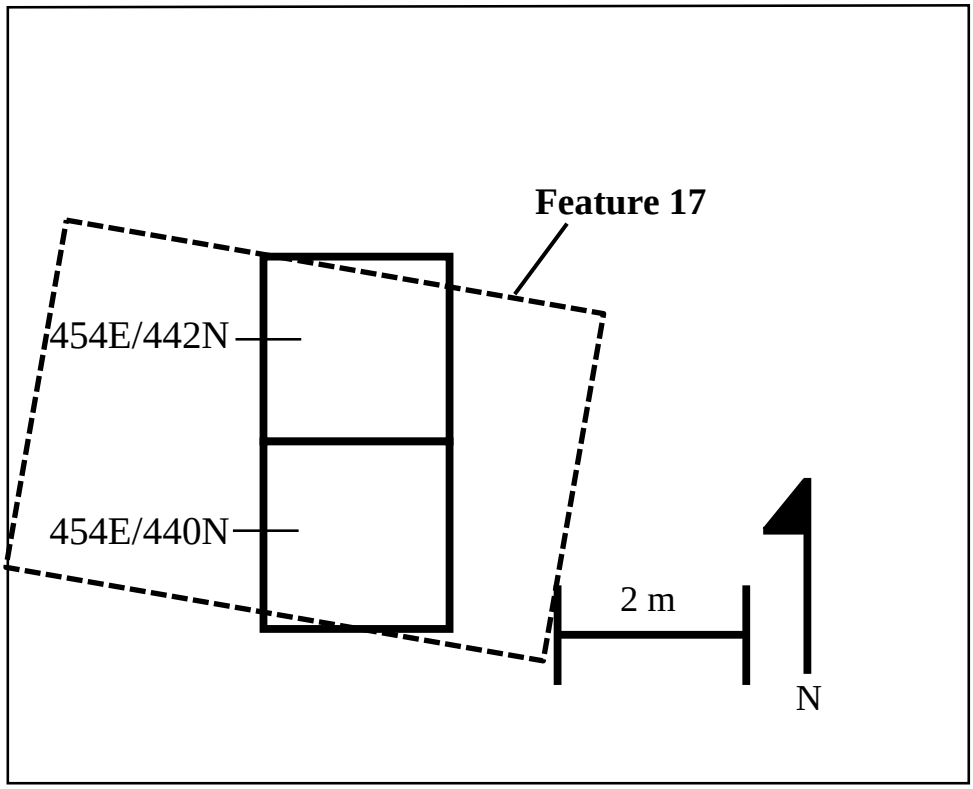

Figure 26. Feature 17 test units.

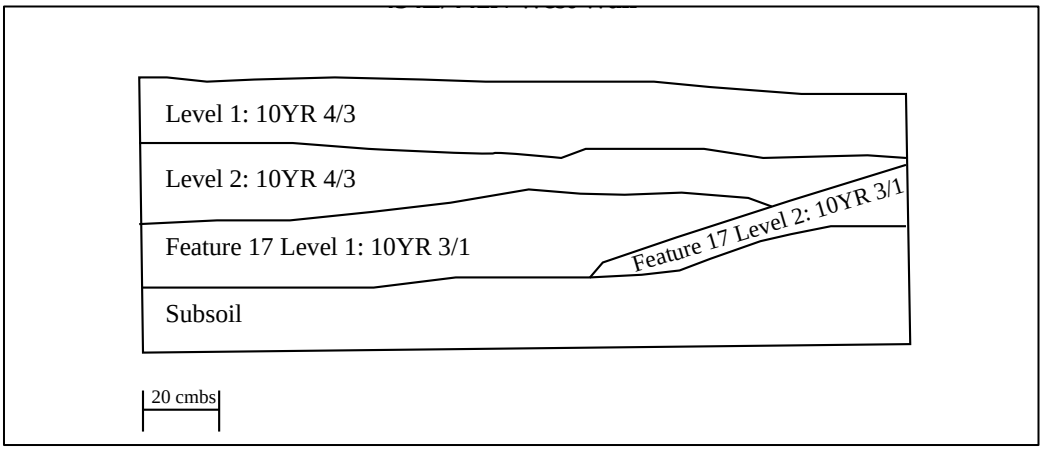

Figure 27. West profile of Figure 17.

Table 16. Artifacts recovered from Feature 17.						
Artifact Type	**Level 1**		**Level 2**		**Total**	
	(n)	**%**	**(n)**	**%**	**(n)**	**%**
Pottery	161	20.8%	133	22.05%	945	27.7%
Lithics	9	1.1%	9	1.4%	298	8.7%
Bone	8	1.03%	167	27.6%	428	12.5%
Fired clay	170	21.9%	93	15.4%	460	13.4%
Fossil	409	52.8%	192	31.8%	1,191	34.9%
Live shell	3	0.3%	1	0.1%	28	0.8%
Possible metal	8	1.03%	4	0.6%	48	1.4%
Charcoal	6	0.7%	4	0.6%	10	0.2%
Total	774	100%	603	100%	3,408	100%

Test Unit 454E/440N[2]

Test Unit 454E/440N was a 2 x 2-meter test unit placed to investigate the rectangular anomaly 70 meters south of the northern block. This test unit was excavated in two natural levels to a total depth of 38 cmbs. Level 1 was a dark grayish brown (10YR 4/2) mottled clay that extended from the surface to a depth of 22 cmbs. No features were identified in this level. Level 2 was a brown (10YR 4/3) clay that extended from 22-38 cmbs. No features were identified in this level. A total of 1,336 artifacts were recovered from Test Unit 454E/440N (Table 17). The majority of artifact types recovered were pottery, lithics, and bone (see Table 17).

Table 17. Artifacts recovered from Test Unit 454E/440N.						
Artifact Type	**Level 1**		**Level 2**		**Total**	
	(n)	**%**	**(n)**	**%**	**(n)**	**%**
Pottery	502	47.9%	88	30.4%	590	44.1%
Lithics	217	20.7%	5	1.7%	222	16.6%
Bone	93	8.8%	78	26.9%	171	12.7%
Fired clay	111	10.6%	48	16.6%	159	11.9%
Fossil	70	6.6%	66	22.8%	136	10.1%
Live shell	6	0.5%	2	0.6%	8	0.5%
Possible metal	48	4.5%	2	0.6%	50	3.7%
Charcoal	-	-	-	-	-	-
Total	1,047	100%	289	100%	1,336	100%

[2] Plan view for Test Unit 454E/440N was not created in the field because of undifferentiated feature fill and time constraints.

Test Unit 454E/442N

Test unit 454E/442N was a 2 x 2-meter test unit placed to delineate the rectangular anomaly identified during the gradiometer survey. This test unit was excavated in four natural levels to a total depth of 68 cmbs. Level 1 was a brown (10YR 4/3) clay that extended from the surface to a depth of 21 cmbs. No features were identified in this level. Level 2 was a brown (10YR 4/3) clay that extended from 22-44 cmbs. A yellowish-brown (10YR 5/4) mottled subsoil was present in the northwest and northeast corner at 44 cmbs. Feature 17 was identified at the bottom of Level 2 (Figure 28). A total of 3,408 artifacts were recovered from Test Unit 454E/442N (Table18). The majority of artifact types recovered were pottery, fossils, and lithics (see Table 18).

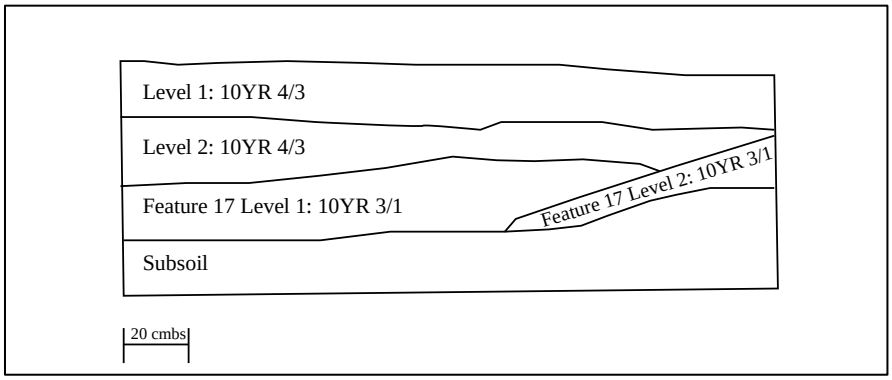

Figure 28. West profile of 454E/442N.

Table 18. Artifacts recovered from Test Unit 454E/442N.

Artifact Type	Level 1		Level 2		Total	
	(n)	%	(n)	%	(n)	%
Pottery	600	35.4%	51	15.1%	651	32.05%
Lithics	275	16.2%	51	1.4%	280	13.7%
Bone	203	11.9%	50	14.8%	253	12.4%
Fired clay	152	8.9%	45	13.3%	197	9.6%
Fossil	422	24.9%	168	49.8%	590	29.04%
Live shell	12	0.7%	12	3.5%	24	1.1%
Possible metal	30	0.7%	6	1.7%	36	1.7%
Charcoal	-	-	-	-	-	-
Total	1,694	100%	337	100%	2,031	100%

A description of past investigations and the 2016 investigations at the Stark Farm Site (22OK778) was presented in Chapter 3. In 2016, thirteen test units were placed to delineate anomalies found during a gradiometer survey. These anomalies were identified as four pit features with homogenous fill of domestic debris, including pottery, bone, fired clay, fossilized shell, metal fragments, and charcoal. Several ceramic cross mends between zones can be made in each pit feature. The homogenous fill of each feature and the ceramic cross mends suggests the pits were filled in a single depositional event. The discrete contexts provide an ideal sample to determine a site chronology through seriation and radiocarbon dating. Chapter 4 presents the ceramic methods, analysis, and seriation of the Stark Farm Site.

CHAPTER IV: CERAMIC ANALYSIS METHODS AND RESULTS

In the past, the culture-historical approach in archaeology made assumptions about the lifeways of indigenous groups. Previous works (e.g. Phillips 1970; Phillips et al. 1951) identifying ceramics types do not explain the variabilities or inconsistencies in typologies. In this study, a type-variety system is used to refine an archaeological complex in the Blackland Prairie region of Mississippi during the Protohistoric period. This system does not explain the complexity of indigenous groups inhabiting the Blackland Prairies, yet carefully constructed simple typologies provide a baseline to understand the connections between past cultures. This then allows us to go to the next step of understanding indigenous agency during a time of upheaval following European interaction.

The Starkville Archaeological Complex

As discussed in Chapter 2, the Starkville Archaeological Complex is an archaeological pattern of dispersed settlements across upland ridges in the Blackland Prairies of northeast Mississippi that date to the Protohistoric period (A.D. 1500-1700) (Jeter 2009:368). Atkinson (1979) first defined this complex identifying European trade items in association with distinct ceramic sherds with curvilinear or angular surface decorations on sandy pastes. Atkinson (1979:63) identified a predominate use of live shell as the primary tempering agent that diverged from the more common use of fossil shell temper in historic Chickasaw ceramic contexts.

Atkinson (1979) argued that a possible association could be drawn to the nearby Chakchiuma who occupied northern Mississippi in the sixteenth to eighteenth centuries (Galloway 2004:496). However, Johnson (2000:85-101) suggested that the strong connection of ceramic styles to the historic Chickasaw in Tupelo to Late Mississippian assemblages in the Tombigbee suggested the Chickasaw are descendants of the Mississippian polities in the area.

Because the Starkville Archaeological Complex is defined as a Protohistoric occupation, identifying archaeological sites that date to this period is important to our understanding of contact and its effects on Native Americans. Over 140 years passed before Europeans encountered the natives of the interior Southeast after the De Soto *entrada* in northeast Mississippi; however, the disruptions Europeans caused in the Mississippian world precipitated the collapse of these societies that archaeologists and ethnohistorians are attempting to piece together (see Ethridge 2010; Ethridge and Hudson 2002; Galloway 1995). Sites in the Starkville Archaeological Complex refine our comprehension of pre- and post-contact native cultures in the Southeast, and provide a context for Mississippian sites after the De Soto *entrada.* The mixture of ceramic wares of the Mississippians and historic Chickasaw groups in the SAC can answer questions about the transition from a Mississippian world to a historic Chickasaw occupation.

The SAC is poorly understood. For this study, a stylistic seriation is used to refine the chronology of a SAC site. Seriations are used by archaeologists to define chronologies over periods of hundreds of years (Phillips et al. 1951), but feature contexts, like midden pits, with temporally-limited fill, can provide a discrete timeline. Tracking trends of ceramic styles from the SAC provides a window into the relatively little-known period after contact. These transitions in ceramic style can further define connections between the Mississippians and historic native tribes of the seventeenth and eighteenth centuries.

Mississippian Ceramics

The Stark Farm ceramic assemblage represents a portion of the late prehistoric period with distinct ceramic characteristics indicative of the Late Mississippian period (A.D. 1450/1500-1600) (Blitz 1993:50) and historic Chickasaw assemblages from the later seventeenth and eighteenth centuries. For this study, ceramic styles of central Alabama and northeast Mississippi are described, based primarily on Mann's (1983) and Blitz's (1993) work at Lubbub Creek and Jennings' (1941) and Lieb's (2004) work on historic Chickasaw ceramics in the Blackland Prairie district of Mississippi (Figure 29). The Lubbub Creek assemblage consists of ceramics from the 1978 excavations conducted by the University of Michigan for the Tennessee-Tombigbee Waterway construction, under the direction of Christopher S. Peebles (Blitz 1993:52). The Lubbub Creek Locality occupation spans from the Late Woodland Miller III phase (A.D. 600-1000) to the Late Mississippian/Protohistoric period (A.D. 1450/1500 -1600) (Blitz 1993:50-56). However, the principal Mississippian occupation at Lubbub Creek (at Site 1PI85) is a single-mound, local center located in a bend in the Tombigbee River. Investigations at Lubbub Creek in 1978 excavated 12 hectares of the Mississippian center (Blitz 1993:56). Classifications of the ceramic assemblage used the type-variety method using temper (shell, grog, and sand), surface treatment (burnished, unburnished, and painted), and decoration (plain and incised) as the defining characteristics (Mann 1983).

The predominant temper found in the Mississippian assemblage is shell, though a mixture of shell and grog temper is identified in some wares. Temper size ranged from less than 2 millimeters (mm) (fine) to greater than 2 mm (coarse) (Mann 1983:22). Steponaitis' (1984) work on paste compositions shows shell has a lower threshold for thermal shock during the firing process. Moreover, coarser shell-tempered wares were used for a utilitarian function as opposed to the finer shell tempered wares, which functioned as serving vessels (Steponaitis 2009:45). The

distinction in temper type and size is significant for identifying the plain shell-tempered wares known as Mississippi Plain and Bell Plain types at the Lubbub Creek and Stark Farm sites

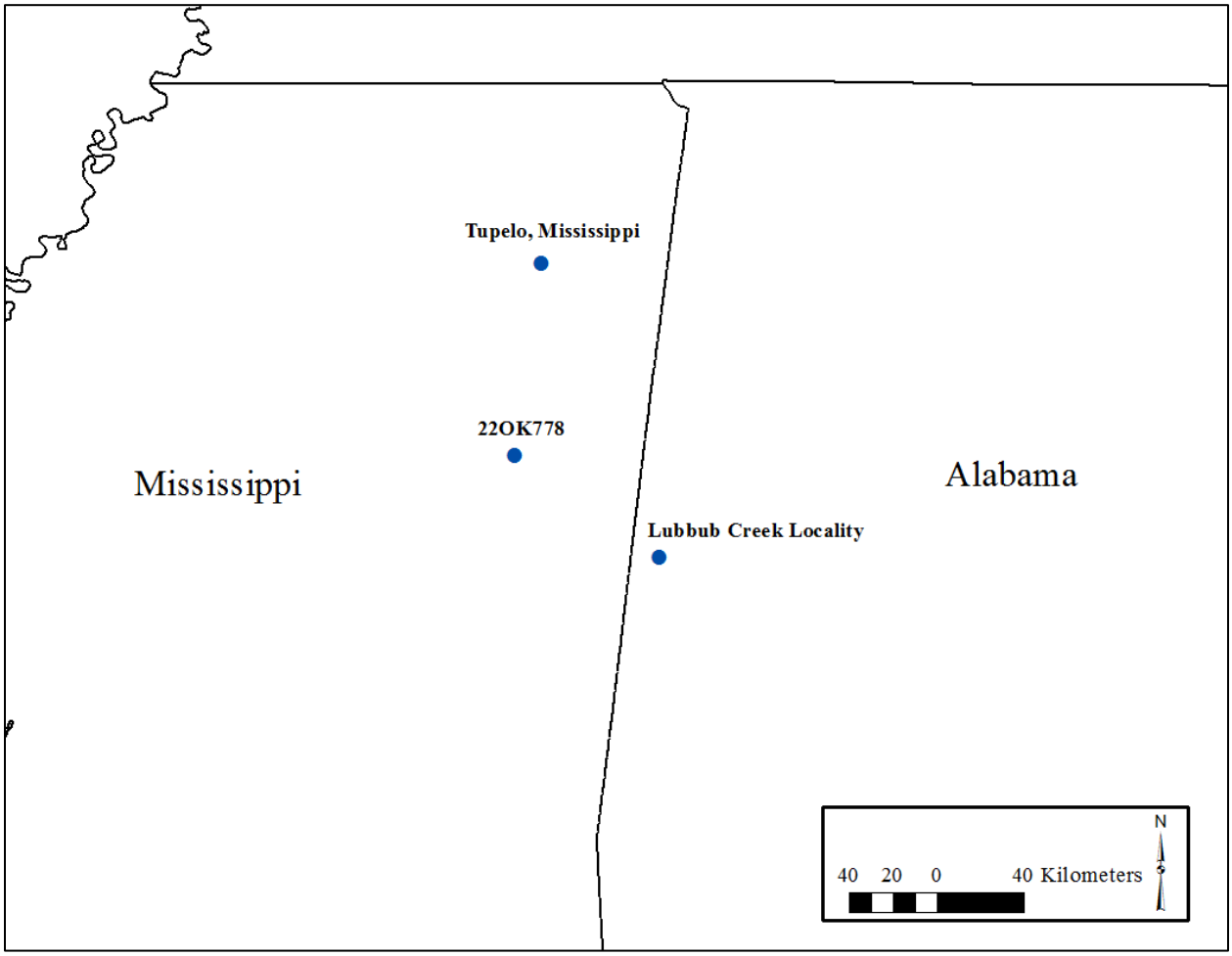

Figure 29. Archaeological sites used in the seriation.

Jars, bowls, and bottles were the basic vessel shapes of the Lubbub Creek Locality (Mann 1983). Vessel shape identification for the Lubbub assemblage used vessel form descriptions from Steponaitis (1983 Figure 22). Similar to temper, vessel shape identifies function, such as cooking/storage wares or serving wares (Hally 1986). Jars typically were cooking or storage vessels and bottles and bowls were used as serving vessels. Blitz (1993) divided the assemblage to assess differences in vessel function between the mound and village ceramics. He identified a

slightly higher frequency of serving vessels in the mound, though it is noted this variation does not equate to any significant difference between mound and village activities (Blitz 1993:92). Secondary shape features identified at Lubbub refined the ceramic chronology. Of note, Mann (1983) identified handles with nodes and appliqué neck fillets, both of which are temporally sensitive in the Stark Farm assemblage. Both of these secondary features appeared during the Late Mississippian period and are classified as Alabama River Applique (Mann 1983:33).

Surface treatments in the Lubbub assemblage included burnished, unburnished, smoothed and painted finishes. One of the defining characteristics differentiating Bell Plain from Mississippi Plain is the presence of a burnished surface finish on Bell Plain vessels (Steponaitis 2009:52). At Lubbub Creek, Mann identified Bell Plain based on the mixture of fine shell with grog temper (Mann 1982:42). Sherds slipped red, white, or red and white were identified in the Lubbub assemblage, though Mann (1983:98-99) noted very few samples could be identified to a vessel form. Of note, the red-and-white-painted wares of this area (Nodena Red on White) post-date A.D. 1400. (Steponaitis 2009:338).

The type-variety system identifies surface decorations based on the presence or absence of incised lines or punctations in the Lubbub assemblage. Any distinguishing characteristics identified from the motif were placed in the appropriate varietal categories. The locations of the decorations (interior and exterior) were noted for unclassified sherds (Mann 1983:30).

Chickasaw Styles

Jennings' (1941) work on Chickasaw ceramic styles was based on ceramic assemblages from four archaeological sites in Tupelo, Mississippi. Jennings' research was the first published classification of Chickasaw ceramics, though Lieb (2004) suggested that Jennings was more than likely not the first to identify Chickasaw ceramic wares. Instead, credit should be given to

Moreau Chambers, but most of his work remains in unpublished field notes (Lieb 2004:2.3). Jennings reported six types: Wilson Plain, Wilson Plain Black, Wilson Roughened, Oktibbeha Plain, Fatherland Incised, and Ridge Plain (Jennings 1941:176-178). Since Jennings' classification, several works attempted to better define Chickasaw ceramic types and chronology (see Atkinson 1987; Lieb 2004; Stubbs 1982).

The primary temper in Chickasaw ceramics is fossil shell (Jennings 1941:174) obtained from the Selma chalk formation in the Blackland Prairie district of Mississippi. The shift of temper from Mississippian live shell to fossil shell appears to be connected to movement into the Blackland Prairie; however, this does not explain why the change in practice did not happen for another two hundred years after the move (Johnson et al. 2008:11). Like the fine and coarse live shell-tempered wares of the Mississippian period, fine and coarse fossil shell-tempered wares are present during this time period, and are known as Oktibbeha Plain (< 2 mm) and Wilson Plain (> 2 mm).

Sand became the primary temper replacing fossil shell in Chickasaw ceramics in later periods (Johnson et al. 2008:10). Johnson et al. (2008:11) presented two theories as to why sand replaced fossil shell as the primary temper, considering all of these tempers are equally functional, and studies suggest (Bronitsky 1989; Bronitsky and Hamer 1986; Feathers 1989) that shell is a superior temper in terms of heat transfer. As Steponaitis (2009) suggested for the shift in paste composition to shell, the use of sand instead of fossil shell could be an indication of a change in cooking methods or subsistence practices (Johnson et al. 2008:11). Also, the introduction of metal cooking kettles into Chickasaw practice might have resulted in a decrease of ceramic wares (Johnson 2008:11). Exposure to European vessels may have altered the way

Native American vessels were made, including temper and morphology (Crook 1990; Otto and Lewis 1974; Smith 1948).

Jennings (1941) identified fine sand-tempered wares as Ridge Plain and positioned the type into a late prehistoric and early historic context. Debate over the chronological positioning of this type has been challenged due to the closely related coarse sand-tempered Baldwin Plain type of the Woodland period in Mississippi (see Jennings 1941; Lieb 2004; Stubbs 1982). However, Lieb (2004) concluded that the fine temper size of the Ridge Plain type was a defining characteristic of this type in historic contexts.

Basic vessel shapes in Chickasaw assemblages are bowls, jars, bottles, miniatures, and plates (Lieb 2004:2.26-2.31). Jars are the most common vessel shape in Chickasaw assemblages (Lieb 2004:2.27). Bottles are particularly rare among Chickasaw ceramics, which Atkinson (1987) noted was a distinct difference between Late Mississippian ceramic wares and Chickasaw assemblages of the seventeenth and eighteenth centuries.

Like the Lubbub Creek assemblage, secondary features on historic Chickasaw wares further define the chronology of Chickasaw ceramics. The most common feature was a punctated or notched appliqué fillet appearing just below the lip on Oktibbeha Plain jars (Lieb 2004:2.23). Lieb (2004:2.24) noted this added appliqué was a distinct ceramic mode that changed across the Southeast during the Protohistoric period. Another secondary feature are handles. Five types of handles identified in the Lieb (2004) assemblage included strap handles, tapered strap handles, incised or modeled strap handles, vestigial strap handles, and lugs. Lug handles comprised the majority handle type in this assemblage (Lieb 2004:2.23).

Table 19 identifies common ceramic types found at the Lubbub Creek site and Table 20 shows common ceramic types found at Chickasaw sites. Jennings' (1941:174) classification

identified a majority of Chickasaw ceramics as undecorated. Lieb (2004) noted the lack of tooled decoration makes Chickasaw ceramic chronology difficult to define. Interestingly, Lower Mississippi Valley decorated types (Barton Incised, Winterville Incised, Rhodes Incised, and Wallace Incised) from the Mississippian period are found on fossil-shell tempered vessels (Atkinson 1987).

Table 19. Common Ceramic Types from Late Mississippian/Protohistoric Assemblages **(**Mann 1983; Steponaitis 2009).

Attribute	**Alabama River Applique**	**Alabama River Incised**	**Barton Incised**	**Bell Plain**	**Mississippi Plain**	**Nodena Red on White**	**Parkin Punctated**
Temper	Live shell	Live shell	Live shell	Fine live shell	Coarse live shell	Live shell	Live shell
Vessel Form	Burial urns, standard jars, simple bowls	Flared rim bowls	Jars	Bottles, bowls, and jars	Globular jars	Bowls	Jars and short neck bowls
Surface Decoration	Plain	Incising on interior and exterior of vessel	Vertical parallel incising from lip of vessel	Plain	Plain	Red and white slip applied to surface	Multiple punctations applied to vessel wall
Motif	-	Scrolls	*Var. Demopolis*	-	-	-	-
Mode	Vertical applique strips applied to neck of the vessel	-	-	-	-	-	-
Chronological Position	Summerville IV	Summerville IV	Summerville IV	Summerville I-IV	Summerville I-IV	Postdates A.D. 1400	Mississippian Period

Table 20. Common Ceramic Types from Chickasaw Assemblages (Jennings 1941).				
Attribute	**Oktibbeha Plain**	**Ridge Plain**	**Wilson Plain**	**Wilson Roughened**
Temper	Fine fossil shell	Fine sand	Coarse fossil shell	Coarse fossil shell
Vessel form	Globular jars, bowls	Hemispherical bowls, jars, globular jars, shallow bowls	Globular jars, bowls	Globular jars, bowls
Surface decoration	Plain	Plain	Plain	Roughened surface
Motif	-	-	-	-
Mode	-	-	-	-
Chronological position	Historic	Historic	Historic	Historic

The Stark Farm Assemblage

The ceramic assemblage from the Stark Farm Site (22OK778) was recovered during excavations completed in 2016. The ceramic sample has a total of 4,239 sherds from four feature contexts. Our investigations focused on areas from previous excavations conducted in 2015 as well as gradiometer data compiled in the spring of 2016 (Boudreaux et al. 2017). The gradiometer survey identified three large amorphous-shaped anomalies in the northern portion of the site. The 2015 investigations excavated a portion of one of these anomalies (Feature 14). Seventy meters to the south of the three pit anomalies in the northern block (see Chapter 3), the gradiometer identified an anomaly that appeared rectangular in shape. Excavations conducted along the ridgetop east of the three anomalies at the Stark Farm Site identified several post features, which might indicate a structure. Artifacts from this locality were removed from the ceramic assemblage of this study because of the abundant sample from discrete contexts west and south of these excavations at the Stark Farm Site.

The three anomalies identified in the northern part of the Stark Farm Site are between 2-6 meters in diameter. These features seem similar to the *okkakinafa'* described previously

described in Chapter 2. The fill of Features 14, 15, and 16 contained domestic debris (ceramics, bone, fired clay, lithics, and metal). All features appear to have been filled in one single depositional event and provided closed contexts from a discrete timeline for the seriation at Stark Farm. Feature 17 contained similar artifacts to those found in the pits, but artifacts were present in a lower frequency. The differences in shape and the similarities with artifacts to the features in the north provided an additional sample from Feature 17 to add to the seriation.

Type-Variety Classification of the Stark Farm Site

A total of 13 types (n=1,328) were identified and used in the seriation for the Stark Farm assemblage (Table 21). These types include Addis Plain, Alabama River Incised, Alabama River Applique, Barton Incised, Bell Plain, Mississippi Plain, Nodena Red on White, Oktibbeha Plain, Parkin Punctated, Ridge Plain, Tishamingo Cordmarked, Wilson Plain, Wilson Roughened. A small percentage (7.5%) of unidentified mixed tempered and unidentified painted sherds was identified in the assemblage as well.

Table 21. Ceramic Types Identified in the Stark Farm Assemblage.

Type	**(n)**
Addis Plain	5
Alabama River Incised	25
Alabama River Appliqué	11
Barton Incised	16
Bell Plain	161
Mississippi Plain	430
Nodena Red on White	8
Oktibbeha Plain	65
Parkin Punctated	46
Ridge Plain	327
Tishamingo Cordmarked	9
Wilson Plain	134
Wilson Roughened	1
Untyped Temper	75
Untyped Painted	15

Addis Plain was first defined by Ford (1936) and has a fine-grained grog temper with a smoothed surface finish. Lieb (2004:2.12) defined this as the clay body of Fatherland Incised types of the Lower Mississippi Valley, Plaquemine culture, and Natchez groups. A total number of five sherds of this type were recovered.

Alabama River Incised was first defined by Cottier (1970) and is shell tempered and decorated with incised scrolls. The incised decorations are typically located on the interior of out flaring rim bowls (Curren 1984:222). It is found in central Alabama along the Alabama, Tombigbee, and Warrior Rivers and indicates a Late Mississippian to Protohistoric time period. A total of 25 sherds of this type were recovered. Of the 25 sherds identified, two examples were fossil shell tempered, four examples were sand tempered, and 11 examples were a mixed temper of sand and live shell.

Alabama River Appliqué was first defined by Cottier (1968) and is shell tempered with a plain surface decoration. The defining characteristic of this type are vertical appliqué fillets applied to the neck of globular jars which are treated as modes (Curren 1984:212). It is found throughout central Alabama and Mississippi and indicates a Late Mississippian to Protohistoric time period. A total of 11 sherds of this type were recovered. Of the 11 sherds identified, two examples were a mixed temper of sand and live shell.

Barton Incised was first defined by Phillips, Ford, and Griffin (1951) and is live shell tempered with incised line-filled triangles or rectilinear motifs. One variety of this type was identified in the assemblage. Barton Incised var. *Demopolis* was identified by Jenkins (1981) and is a shell tempered with vertical incised lines on the exterior starting at the lip of the vessel. It is found in the Tombigbee and Alabama River regions and is indicative of a Late Mississippian to

Protohistoric time period (Curren 1984:209). A total of 16 sherds of this type were recovered. Of these, six were sand tempered and one contained a mixed temper of sand and live shell.

Bell Plain was first defined by Phillips (1970) and is fine, live shell tempered with a plain surface decoration and a burnished surface finish. It is found in the central and lower Mississippi Valley and dates to the Early to Late Mississippian period. A total of 161 sherds of this type were recovered.

Mississippi Plain was first defined by Phillips (1970) and is coarse live shell tempered with a plain surface decoration. The defining characteristic between Bell and Mississippi Plain wares is the size of temper and surface finish. This type is widespread across the region, but it can be found in the Black Warrior River valley and central Tombigbee Valley. It indicates an Early Mississippian to Late Mississippian period. A total of 430 sherds of this type were recovered.

Nodena Red on White was first defined by Phillips et al. (1951) and is coarse live shell tempered type with red and white slip applied to its surface. It is found in the Lower Mississippi Valley and dates to the Protohistoric time period. A total of eight sherds of this type were recovered.

Oktibbeha Plain was first defined by Jennings (1941) and is a fine fossil shell tempered with a plain surface decoration. It is found in northern Mississippi and dates to a historic time period. A total of 65 sherds of this type were recovered.

Parkin Punctate was first defined by Phillips et al. (1951) and is coarse shell tempered type with punctations covering the surface of the vessel. It is found in the central and lower Mississippi Valley and indicates Early to Late Mississippian periods. A total of 46 sherds of this type were recovered.

Ridge Plain was first defined by Jennings (1941) and is fine sand tempered type with a plain surface decoration. It is found in northeast Mississippi and dates to a late prehistoric to historic time period (Jennings 1941:178). A total of 327 sherds of this type were recovered.

Tishamingo Cordmarked was first defined by Jennings (1941) and is a sand and grog tempered type with a cordmarked surface decoration. It is found in northeast Mississippi and dates to the Woodland time period. A total number of nine sherds of this type were recovered.

Wilson Plain was first defined by Jennings (1941) and is coarse fossil shell tempered type with a plain surface decoration. It is found in northeast Mississippi and dates to the historic time period. A total of 134 sherds of this type were recovered.

Wilson Roughened was first identified by Jennings (1941) and is coarse fossil shell tempered type with deliberate irregular brushing across the surface. It is found in northeast Mississippi and dates to a historic time period. A total of one sherd of this type was recovered.

Unidentified types were classified by temper and surface decoration. A mixed sand and live shell temper plain ware was identified in the assemblage. Brain (1988:334) identified a Mississippi Plain var. *Montfort* that is tempered with a consistent amount of sand and live shell. Montfort is found in the Lower Mississippi Valley and indicates a Protohistoric to historic occupation. Within the Stark Farm assemblage, there are a few examples of this temper type with decoration of incised lines found on the interior and exterior surfaces. A total of 75 sherds of this type were recovered. Of these, 15 contained unidentifiable incising on the interior and exterior parts of the sherd. This portion of the assemblage did not fit within a particular type previously identified.

Unidentified painted wares were classified by temper and surface decoration. Samples of red or white slipped sherds were identified in the assemblage; however, these sherds could not be

classified in the Nodena Red on White type-variety. For analysis, paint was noted on the interior or exterior of the sherd. A total of 15 sherds were recovered.

Seriation

Seriation methods allow contexts from different sites to be placed into a single chronological sequence, which is useful when positioning ceramic assemblages in a regional framework. The Stark Farm ceramic sequence is based on a seriation of 31 assemblages from seven sites, which include Lubbub Creek (1PI85), Stark Farm (22OK778), and multiple Chickasaw sites in Tupelo, Mississippi (Site 22MLE18, 22MLE112, 22LE907, 22LE14, and 22LE90). All assemblages are from pit contexts. A threshold of 50 or more sherds for each context was established and used to standardize the data. Therefore, all contexts that did not meet the requirements for the threshold were grouped by a relative phase or time period. Seven assemblages (Pits 1, 9, 14, 146, 152, 157, 163) came from the Lubbub Creek site and are classified as Summerville II/III (A.D. 1200- 1500) (Blitz 1993:56). Four assemblages (Pit 40, 69, 70, and 100) from Lubbub Creek are classified as Summerville IV (A.D.1450-1600) (Blitz 1993:56). Four pit assemblages (Features 14, 15, 16, and 17) came from the Stark Farm site. One assemblage came from Site 22MLE18 (Feature 2) and one assemblage came from Site MLE112 (Feature 1), with both assemblages identified as Early Chickasaw (A.D.1650) (Johnson et al. 2008). Five assemblages came from Site 22LE907 (Features 1, 2, 24, 20, and 27) and were identified as Early Middle Chickasaw (A.D. 1680-1720) (Johnson et al. 2008). Six assemblages came from Site MLE14 (Features 2, 15, 20, 22, 27, and 28) and were identified as Late Middle Chickasaw (A.D. 1730s) (Johnson et al. 2008). Lastly, three assemblages came from Site MLE90

(Features 2, 7, and 12) and were identified as Late Chickasaw (A.D. 1750s) (Johnson et al. 2008).

The Stark Farm ceramic assemblage contains live shell tempered plain types found during the Summerville IV phase, which include Alabama River Appliqué, Alabama River Incised, Parkin Punctated, Barton Incised, and Nodena Red on White types. The assemblage also contains distinctive types tempered with fossil shell found at Chickasaw sites, like Oktibbeha Plain and Wilson Plain, as well as the sand tempered plain ware, Ridge Plain. Of note, several diagnostic motifs from the Summerville IV phase were identified on fossil and sand tempered pastes. Modes are more closely aligned to the Summerville IV phase with loop/strap handles with nodes and appliqué fillets at the lip. From the temper counts presented below (Table 22), mussel live shell is the primary temper at the Stark Farm Site.

Table 22. Total Temper Counts and Percentages from the Stark Farm Site.

Temper	Count	Percent
Grog	8	0.59%
Live Shell	698	51.70%
Fossil Shell	209	15.48%
Sand	360	26.67%
Other	75	5.56%
Total	1,350	100%

Nonmetric Multidimensional Scaling

Nonmetric Multidimensional scaling (MDS) was the method used to seriate the Stark Farm sequence. The MDS method plots the similarities and dissimilarities between multiple cases onto a flat plane (Drennan 2009:287). The cases, which consist of percentages of pottery types in this analysis, are classified through a rank-ordering system and presented onto a graph representing two dimensions. The distances between each case are a measurement of difference; therefore, widely spaced points on the plane demonstrate large differences. The correlation

between each rank order, called stress values, identifies the similarities and distances between cases (Drennan 2009:286). A low stress value identifies a successful ordering in a lower number of dimensions (Drennan 2009:286).

The first step in producing a MDS plot of the Stark Farm sequence was the creation of a standardized table representing pottery types in rows and feature contexts in columns (Table 23). Lubbub Creek pits were collapsed into Summerville II/III and Summerville IV phases based on the chronological positions provided by Blitz (1993:56). Chickasaw archaeological sites and contexts were collapsed into Early, Early Middle, Late Middle, and Late Chickasaw periods based on Lieb's (2004:2.34-2.42) relative chronological periods from his ceramic seriation. The percentages shown are based on counts divided by the number of sherds used in this seriation. All residual sherds (defined as smaller than 2 cm), eroded sherds, unclassified types, and sherd assemblages with less than five sherds were discarded.

A MDS plot based on the data from the Lubbub Creek, Stark Farm, and Chickasaw sites is presented in Figure 30. The points in the plot align in a curvilinear pattern with a low stress of 0.005 (Table 24). The distribution in the MDS plot consists of three clusters. The earliest group (Cluster 1) includes the Summerville II/III, IV, and Early Chickasaw pits. The middle group (Cluster 2) includes all of the pit features from the Stark Farm Site. The final group (Cluster 3) includes the Early Middle, Late Middle, and Late Chickasaw pits.

Cluster 1 consists of the Summerville II/III, IV, and Early Chickasaw assemblages. The inclusion of the Early Chickasaw assemblage in this cluster in the MDS plot indicates a high percentage of live shell-tempered vessels and a low percentage of fossil shell-tempered vessels in this context (see Table 23). Cluster 2 consists of the Stark Farm assemblages. Feature 14 and Feature 17 produces the largest distance in the assemblage indicating the largest difference in the

cluster. Cluster 3 consists of Early Middle, Late Middle, and Late Chickasaw assemblages. The small distance between Late Chickasaw and Feature 15 indicates the high percentage of Ridge Plain in both contexts (see Table 23).

Table 23. Ceramic Type Percentages used in the MDS.

TYPE	SV II-III	SV IV	F14	F15	F16	F17	Early Chickasaw	Early Middle Chickasaw	Late Middle Chickasaw	Late Chickasaw
Addis Plain	-	-	0.63	-	-	-	-	-	19.38	8.00
Alabama River Applique	-	2.94	0.63	-	1.82	-	-	-	-	-
Alabama River Incised	-	-	1.01	-	4.85	1.06	-	-	-	-
Barton Incised	-	-	1.64	1.94	0.30	-	4.55	1.57	-	-
Bell Plain	2.99	-	9.21	3.88	18.48	24.47	-	-	-	-
Mississippi Plain	88.24	96.57	36.07	15.53	35.15	12.77	77.27	3.66	-	-
Mixed Temper Plain	-	-	3.40	21.36	2.12	2.13	-	-	-	-
Moundville Engraved	2.06	-	-	-	-	-	-	-	-	-
Moundville Incised	6.71	-	-	-	-	-	-	-	-	-
Oktibbeha Incised	-	-	-	1.94	-	-	-	7.85	5.43	6.00
Oktibbeha Plain	-	-	3.53	9.71	3.94	14.89	9.09	39.79	24.81	16.00
Painted	-	-	2.52	0.97	0.61	-	-	-	-	-
Parkin Punctated	-	0.49	3.66	0.97	4.55	1.06	-	-	-	-
Ridge Incised	-	-	1.13	1.94	1.52	-	-	0.52	-	8.00
Ridge Plain	-	-	21.94	36.89	23.64	39.36	-	9.95	7.75	40.00
Roughened	-	-	0.13	-	-	-	-	5.76	-	-
Wilson Brushed	-	-	-	-	-	-	-	3.66	-	-
Wilson Plain	-	-	14.50	4.85	3.03	4.26	9.09	27.23	42.64	22.00

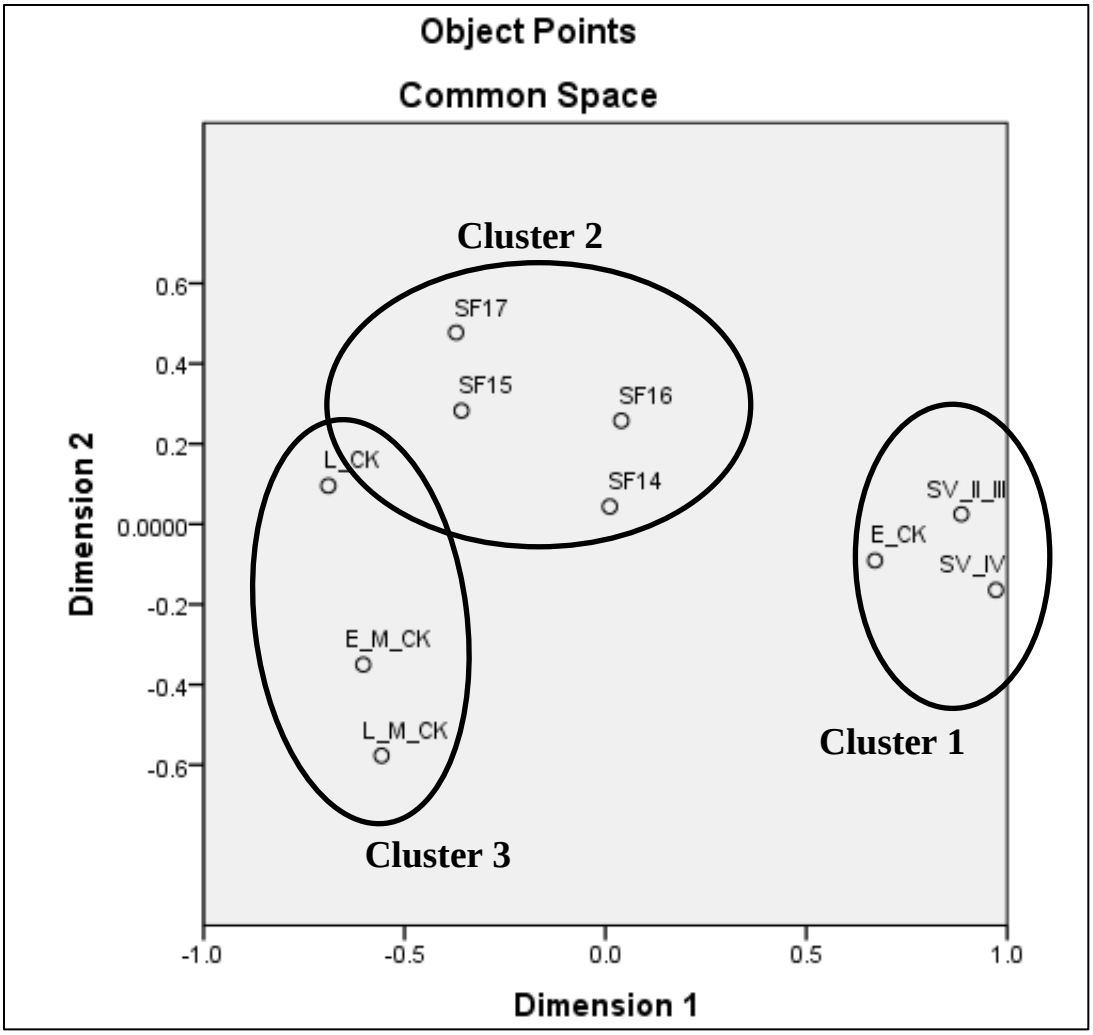

Figure 30. Multidimensional scaling plot of Lubbub Creek (Cluster 1), Stark Farm (Cluster 2), and Chickasaw (Cluster 3) site assemblages.

Table 24. Stress and Fit Measures for Figure 30.	
Normalized Raw Stress	.00587
Stress-I	.07660[a]
Stress-II	.17215[a]
S-Stress	.00639[b]
Dispersion Accounted For (D.A.F.)	.99413
Tucker's Coefficient of Congruence	.99706

Comparing Assemblages in the MDS Plot

Using the relative date ranges from the Lubbub Creek phases and Chickasaw site assemblages allows the Stark Farm assemblages to be placed into a larger temporal context (Table 25) (Blitz 1993:56) (Lieb 2004:2.34-2.42). The revised MDS plot presented in Figure 31 situates the Stark Farm assemblages between A.D. 1600-1680. Based on the placement of the Stark Farm assemblages and the percentages of sherd counts in Table 23, the rise of fossil shell as a primary temper can be placed in the A.D. 1600-1680 period. The majority of the fossil shell wares at Stark Farm have a plain surface treatment. The high frequency of sand as a primary temper in the Stark Farm assemblages, specifically in ceramics from Feature 15, is similar to the Late Chickasaw assemblages. Also, Feature 15 has a high occurrence of mixed tempered (sand and live shell) wares with a plain surface decoration (see Table 23). As mentioned earlier in Chapter 4, the sand and live shell tempered plain ware is similar to the Mississippi Plain *var*. *Montfort* identified in the Tunica investigations (Brain 1988:334). This use of sand temper in Feature 15's ceramics appears to indicate this feature was used during a later period than its counterparts at Stark Farm.

Table 25. Relative Date Ranges for Associated Contexts

Phase/Period	**Date Range**	**Reference**
Summerville II/III	A.D. 1200-1450	Blitz 1993:56
Summerville IV	A.D. 1450-1600	Blitz 1993:56
Early Chickasaw	A.D. 1650-1680	Lieb 2004:2.34
Early Middle	A.D. 1680-1720	Lieb 2004:2.37
Late Middle	A.D. 1730s	Lieb 2004:2.38
Late	A.D. 1750s	Lieb 2004:2.42

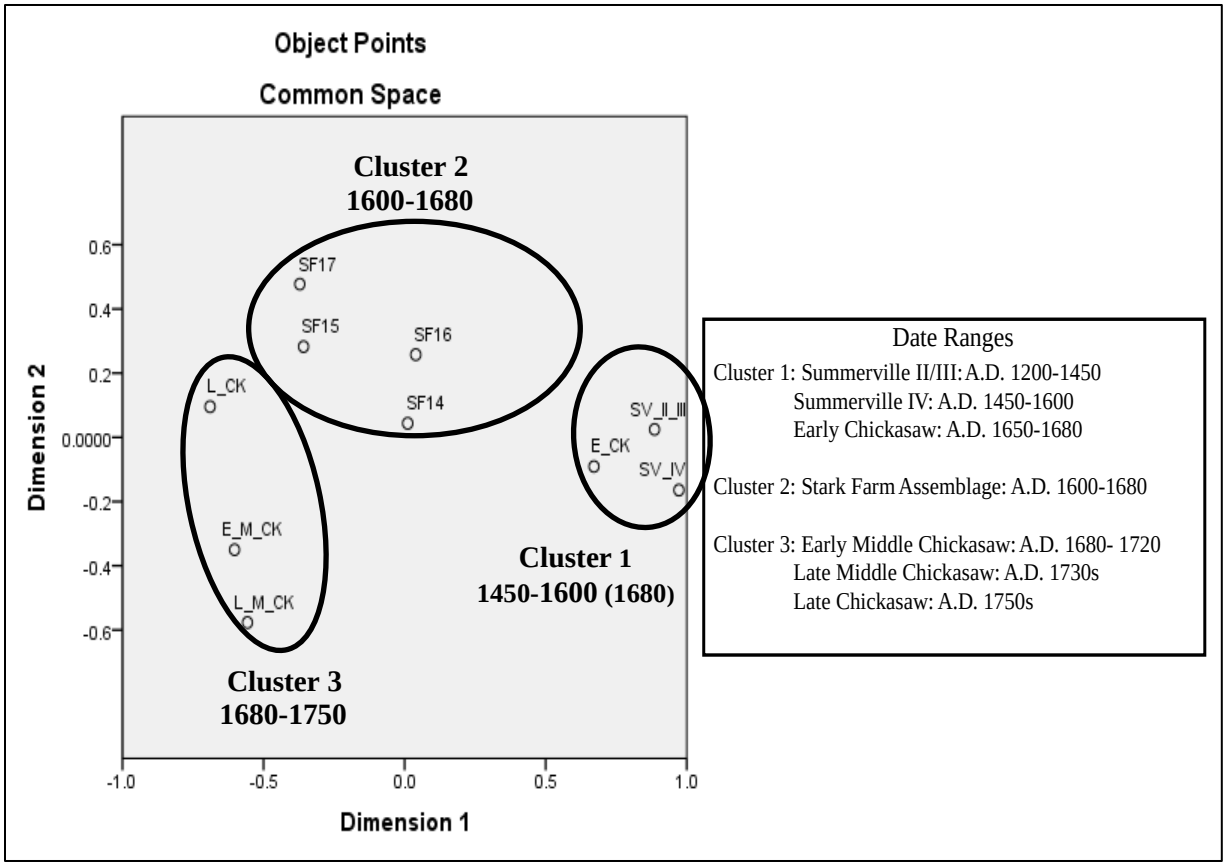

Figure 31. MDS plot showing clusters with relative date ranges.

The assemblages from the Chickasaw sites in Tupelo (Lieb 2004) and other Chickasaw sites in the region (Atkinson 1987) identify a number of examples with diagnostic incising similar to Lower Mississippi Valley types (Atkinson 1987:49), but not all of these types are present at Stark Farm. However, a small number (n=3) of Barton Incised motifs appear on Ridge Plain pastes at Stark Farm. Characteristic modes are presented in Table 26. Secondary shape features, like nodes and appliqué fillets are present at Stark Farm; however, most of these modes appear on live shell pastes. The notched appliqué fillets occur on the rims similar to practices found at Lubbub Creek and nodes are present on handles at Stark Farm but are not clustered as three or more like those found on Chickasaw wares (Atkinson 1987:63).

Table 26. Incidence Chart of Selected Modes at Stark Farm.								
Feature	Handles	Lugs	Notched Applique Fillets	Handles with Nodes	Vertical Applique Strips	Nodes	Handles with Nodes	Painted
14	x	x	x	x	x	x	x	x
16	x	x	x					
17	x					x		
15			x					

In sum, the Stark Farm assemblages represent characteristics from Mississippian and Chickasaw contexts. These traits are indicative of the Starkville Archaeological Complex, as Atkinson (1979) first defined it. The MDS plot further confirms the similarities and differences between the Stark Farm assemblages and the Lubbub Creek and Chickasaw contexts. Based on this data, the Stark Farm assemblages can be placed in the A.D. 1600-1680 period.

Radiometric Dates

Establishing an internal chronology at the Stark Farm Site was a goal for this analysis. A single sample from each pit feature (Features 14, 15, 16, and 17) and a sample from a 2 x 2-meter test unit 35 meters northeast of Feature 14 were submitted for radiometric dating. The radiocarbon dates presented in Table 27 shows these features were used between A.D. 1455-1670 (Cobb 2017, personal communication). One sample, taken from Test Unit 538N/500E returned an earlier date (A.D. 1425-1470); however, this test unit is located in a different part of the site from the features and suggests the site was occupied during the prehistoric and Protohistoric periods (Cobb 2017, personal communication).

Table 27. Radiocarbon dates from the Stark Farm Site (Cobb 2017, personal communication).	
Feature Number/ Unit Number	**Calibrated Radiocarbon Age**
Feature 14	1470-1650
Feature 15	1640-1670
Feature 16	1485-1650
Feature 17	1455-1645
Unit 538N/500E	1425-1470

Correlating the Seriation to Radiometric Dates at the Stark Farm Site

The type-variety systems (see Phillips, Ford, and Griffin 1951) did not use the methodology of correlating their chronological ceramic sequences with radiometric dates because radiocarbon dating had just been discovered and was not widely used. The correlations between seriations and radiocarbon dating change the type-variety system from a relative dating practice to an absolute dating practice. Therefore, trends and patterns can be traced more definitively across multiple contexts and sites across a region. Comparing the seriation of the Stark Farm assemblages with the radiocarbon samples from each context at the site identifies distinctive patterns in temper and surface decoration at the Stark Farm Site.

The movement by late prehistoric native groups into the Blackland Prairie region provided an alternative temper resource for ceramic production. Exactly when Native Americans started using fossil shell instead of live shell as a temper during the Protohistoric period in Mississippi has been unknown (Johnson 2004: 9.5). However, the Stark Farm assemblages more specifically identifies the time period when this practice shifted. The Stark Farm assemblages predominately consists of live shell tempered wares; however, a percentage of fossil shell and sand appear in each feature context. Features 15 and 17 have the highest frequencies of fossil shell and sand (see Table 23), while Features 14 and 16 are predominately mussel shell wares. The radiocarbon dates from these contexts identify Feature 15 with the latest date range (see

Table 27), and these results correlate with the seriation since Feature 15 is in close association with Late Chickasaw assemblages (see Figure 31).

The majority ceramic type found in Features 14 and 16 is Mississippi Plain with a smaller sample of Ridge Plain (see Table 23). The majority type found in Feature 15 is Ridge Plain with a smaller sample of Mississippi Plain (see Table 23). The majority type found in Feature 17 is Ridge Plain with a smaller sample of Bell Plain (see Table 23). Features 15 and 17 show a higher percentage of fossil shell plain wares, such as Oktibbeha Plain and Wilson Plain, than Feature 16. Feature 14 has the highest percentage of Wilson Plain, though this could be due to a larger sample size. Similar to the correlations drawn from temper, the surface decorations found in the Stark Farm assemblages can be correlated to the radiometric dates. A higher percentage of Summerville IV phase ceramic types appear in Features 14 and 16, while the fossil shell plain wares of the Chickasaws increase in Features 15 and 17 (see Table 23).

Atkinson defined the ceramic wares from Starkville Archaeological Complex sites as having ceramics with Chickasaw-like sandy pastes and Mississippian surface decorations. This combination of attributes appears at the Stark Farm Site. Some motifs from the Summerville IV phase are present on fossil shell, sand, and mixed tempered ceramic wares. The vertical incising from the Mississippian Barton Incised types (n=7) are present on Chickasaw Ridge Plain pastes. The distinctive scrolls from the Mississippian Alabama River Incised type (n=10) are present on sand and fossil shell pastes as well as mixed tempered pastes. Finally, the vertical applique strips from the Mississippian Alabama River Applique (n=2) type are produced on mixed tempered (sand and live shell) pastes.

While this analysis places the Stark Farm Site into the larger regional framework of the Starkville Archaeological Complex, the data used for the seriation are not entirely comparable.

The Lubbub Creek and Stark Farm data comprise counts and weights for sherds, while Lieb's (2004) analysis of the sites from the Tupelo area consists of counts for whole vessels and weights. A more comparable sample from other Chickasaw sites that used sherd counts would be more appropriate and therefore more representative of emerging ceramic practices at Stark Farm.

The presence of fossil shell in the Stark Farm assemblages show a change over time occurred at the site. Sometime during the early to mid-seventeenth century, a new resource, fossil shell temper, began to replace live shell temper in this emergent Chickasaw ceramic assemblage. A higher percentage of Summerville IV phase ceramic types in the earlier pits, Features 14 and 16, decrease in quantity in Features 15 and 17 with an increase in the plain wares found in later Chickasaw assemblages. The shifts in temper and surface decoration at the Stark Farm Site suggest natives occupying the site were exercising agency during the contact period in their choice of ceramic temper and surface decoration.

CHAPTER V: SUMMARY AND CONCLUSIONS

The Starkville Archaeological Complex is an archaeological pattern of a distinct clustering of Protohistoric sites in the Blackland Prairie physiographic district of northeast Mississippi. Atkinson (1979) defined these sites as consisting of a dispersed settlement pattern with distinct ceramic assemblages associated with European metal. The ceramics are characterized as sandy historic Chickasaw pastes with Mississippian-style curvilinear or angular surface decorations (Atkinson 1979:62). Investigations at the Stark Farm Site (22OK778) located in the Blackland Prarie region identified a large percentage of European metal in association with ceramics indicative of the Starkville Archaeological Complex (Boudreaux et al. 2017; Cobb et al. 2016).

The purpose of this analysis is to define a ceramic chronology at the Stark Farm Site and position that into the larger context of the Starkville Archaeological Complex. To conduct this analysis, assemblages from the Stark Farm Site, the Mississippian period Lubbub Creek Site in west-central Alabama, and multiple Chickasaw sites in Tupelo, Mississippi were seriatied using non-metric multidimensional scaling. The assemblages from the Lubbub Creek and Tupelo sites are drawn from established chronologies in which attributes diagnostic of Mississippian and Chickasaw contexts in this region have been identified. Although it was expected that the Stark Farm assemblages would fit between the Lubbub Creek and Chickasaw assemblages, it was not known if the Stark Farm assemblages would be more closely related to either the Mississippian period Lubbub Creek or historic period Chickasaw sites.

The calibrated radiometric dates obtained from the five contexts at the Stark Farm Site range from the fifteenth to seventeenth centuries. The earliest date from the single sample of 538N/500E has a two-sigma range that extends from A.D. 1425-1470 (see Table 26). The two-sigma rangers for the four pit contexts at the Stark Farm Site are from A.D. 1455-1670 (see Table 26). The presence of small scrap metal from the four pit contexts indicates that they could not have been filled prior to a post-de Soto period of 1540. Although the possibility of a seventeenth-century occupation cannot be dismissed at Stark Farm due to the nature of the calibration curve during that time period, most of the area under the probability distribution is prior to 1600. Therefore, while the two-sigma dates indicate that the Stark Farm pits date to between A.D. 1455-1670, they may date to the more restricted time frame of A.D. 1540-1600.

Further research is necessary to further define the Starkville Archaeological Complex. Analysis of more assemblages of sites from this time period would allow the Starkville Archaeological Complex to be placed in the larger context of the Protohistoric period in the southeast. Though Jennings (1941), Atkinson (1987), and Lieb (2004) created the first type-variety chronology for the Chickasaw, it is less developed as the Mississippian type-variety systems of the region. Analyses of these sites would benefit from the study of more historic Chickasaw sites, making the timing of the emergent Chickasaw clearer.

Further research will continue to define this archaeological pattern, and though this analysis is site specific, the use of the type-variety system combined with radiometric dating and statistical analyses demonstrates the importance of these practices in defining a ceramic chronology. This thesis defines a portion of the Starkville Archaeological Complex that had previously been poorly described.

As presented in Chapter 2, human agency as a blanket explanation for large-scale cultural change has been critiqued (see Pauketat 2007; Beck 2009; Cobb 2009; Hally 2009; Johnson 2009). However, agency can be recognized in the patterned changes of ceramic practice. The data presented is not a full representation of the ceramic assemblage at the Stark Farm Site, and the analysis of additional ceramic assemblages from SAC sites would narrow our perception of the area through space and time. Yet, this analysis identifies the Stark Farm assemblages showing a potential practice of agency at the community level from the indigenous group occupying this area. This is evidenced by the increase of fossil shell as a primary temper, which had previously been difficult to define chronologically, in the Stark Farm assemblages. Johnson (2004: 9.5) argued that the shift from live shell to fossil shell as a primary temper occurred due to the availability of fossil shell increasing with the move into the Blackland Prairie, which occurred during the fifteenth century (Johnson 1991, 1996a, 1997; Johnson and Sparks 1986). Ceramic assemblages from sites in the Starkville Archaeological Complex can fill the 200 year gap between the primary use of live shell temper during the Mississippian period to the use of fossil shell as a primary temper in historic Chickasaw assemblages.

Agency might also be identified in the transition of surface decorations in the Stark Farm assemblages. The pit features with early dates and a majority of live shell-tempered wares (Features 14 and 16) show a higher percentage of Summerville IV phase surface decorations, such as Barton Incised, Alabama River Incised, and Alabama River Applique (see Table 23). The pit features with a majority of sand and fossil shell-tempered wares show a higher percentage of the plain wares from Chickasaw assemblages (see Table 23). However, as Atkinson (1979) defined the Starkville Archaeological Complex, a small sample of ceramic

sherds with distinct Summerville IV phase motifs appear on the sand and fossil shell pastes similar to those of the historic Chickasaw.

The agency practiced by this indigenous group shows the effects of contact during the Protohistoric period in northeast Mississippi. The movement of people to this area caused a shift in temper use and a change in surface decoration, which reflects characteristics from Mississippian and historic contexts. The continued study of sites in the Starkville Archaeological Complex can further define our understanding of indigenous agency during the tumultuous period after contact.

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APPENDIX A
Ceramic Methodology

The methodology used for the analysis of the Stark Farm assemblage was a type-variety system based on paste and morphological attributes. Paste attributes include temper (live shell, fossil shell, sand, and grog), and size/density (coarse, fine, and medium). Morphological attributes include surface decoration (decorated with description and non-decorated), vessel shape (bowls and jars), and appendages (handles, lugs, nodes, and lip decorations). A "sherdlet" category classified any sherd less than two centimeters (cm). This appendix provides a brief description of recorded attributes during analysis of the Stark Farm assemblage. The descriptions below include each attribute description with the appropriate code for each entry during measurement and recordation.

Paste Attributes

Paste attributes included temper and density/size. Temper was recorded for each sherd based on a visual examination of a freshly broken cross section. Temper 1 was the primary temper and the most common material observed in the sherd. Temper 2 was recorded if a consistent amount of additional aplastic was used. A total of four aplastic materials were identified and coded as follows:

S- shell
FS- fossil shell
S- sand
G grog

Density/Size: The maximum and most consistent size found in a fresh break was recorded. Temper size and density were recorded based on Rice (2005:349) temper size/density chart attached below:

Morphological Attributes

Morphological attributes included the recordation of attributes of surface treatment, vessel form, lip treatment, and appendages.

Surface Treatment

Surface treatments were assigned to the appropriate type and varieties, if applicable. If a type could not be assigned, a brief description of the treatment was given.

Vessel Form

This assemblage had two types of vessel forms: bowls and jars. Few examples could be definitively identified in this collection; however, basic forms identified by Steponaitis (2009:67) were used.

Bowls: vessels with no neck or short vertical neck with no inflection points
Jars: vessels that constrict in profile with a wide slanting neck

Secondary Shape Features

Secondary shape features are ceramic modifications that embellish the vessel. These features include handles, lugs, nodes, and appliqué fillets. Handles are appendages "attached to or just below the lip and end at the shoulder" (Steponaitis 2009:72). The basic shape of the handle (square or triangular) would be noted, if applicable. Lugs are appendages attached to the rim of the vessel. Nodes are appendages attached to the handle or vessel walls. Appliqué fillets are strips of clay applied to the lip of the vessel. Most were notched or punctated in this collection.

Deliberate Surface Coloring

Deliberate surface coloring was noted because of the presence of painted wares in the Stark Farm assemblage. A type category was assigned to a sherd, if applicable. If the painted ware could not be identified, color (red and white) was recorded.

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Education

M.A., Anthropology, University of Mississippi, 2017
Thesis Title: *Sherds with Style: A Ceramic Analysis from a Protohistoric Site in Oktibbeha County, Mississippi.*
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Research & Professional Experience

2011-2012	Lab Assistant in the Auburn Archaeological Laboratory
2013-2015	Crew Member, 39 Phase I Archaeological Surveys in Alabama. Employed by John W. Cottier
2013-2014	Crew Member for the Wetland Reserve Program surveys. Employed by Auburn University
2014	Crew Leader, Phase II Archaeological Investigations at 1Le531 for a Proposed Development by Auburn City Schools, Auburn, Lee County, Alabama. Conducted on behalf of Harmon Engineering & Contracting Co., Inc.
2014-2015	Project Coordinator/Crew Leader for the Wetland Reserve Program surveys. Employed by Auburn University.
2015-2017	Graduate Teaching Assistant, Department of Anthropology, University of Mississippi.
2011	Student Crew Member, Auburn University Archaeological Field School. Principal Investigator: John W. Cottier
2013	Graduate Field Assistant, Archaeological Investigations at the Ebert-Canebrake Site (1Mc25). Auburn University Archaeological Field School. Principal Investigators: John W. Cottier and Cameron B. Wesson.
2014	Graduate Field Assistant, Archaeological Investigations at the Ebert-Canebrake Site (1Mc25). Auburn University Archaeological Field School, Principal Investigator: John W. Cottier.

Research & Professional Experience, continued

2016 Graduate Field Assistant, Archaeological Investigations at the Stark Farm Site (22OK778). University of Mississippi Archaeological Field School, Principal Investigator: Tony Boudreaux.

2016 Graduate Field Assistant, Archaeological Investigations at Rowan Oak, University of Mississippi Public Archaeology Class, Principal Investigators: Maureen Meyers and Tony Boudreaux.

2017 Graduate Field Assistant, Archaeological Investigations at the Butler Mound. University of Mississippi, Principal Investigator: Tony Boudreaux

Technical Reports

2013 *A Phase I Cultural Resource Survey and Evaluation of a Proposed Bridge Replacement on County Road 887, Project No. RCP 56-242-13, Randolph County, Alabama.* Report on file with the Alabama Historical Commission. (John W. Cottier and A. M. Smith)

2013 *A Phase I Cultural Resource Survey and Evaluation of a Proposed Bridge Replacement over Cane Creek, Randolph County Road 59, Alabama. RCP 56-241-13.* Report on file with the Alabama Historical Commission. (John W. Cottier and A. M. Smith)

2013 *A Phase I Cultural Resource Survey and Evaluation of a Proposed Bridge Replacement on County Road 845, Project No. RCP 56-243-13,ATRIP NO. 56-04-08, Randolph County, Alabama.* Report on file with the Alabama Historical Commission. (John W. Cottier and A. M. Smith)

2013 *A Phase I Archaeological Survey and Evaluation of a Proposed Bridge Replacement on Randolph County Road 425, Project No. RCP 56-244-13,ACGBBRZ NO. (),Cohobadiah Creek, Randolph County, Alabama.* Report on file with the Alabama Historical Commission. (John W. Cottier and A. M. Smith)

2013 *A Phase I Archaeological Survey And Evaluation Of A Proposed Bridge Replacement On Little Tom Road (County Road 125),Project No. Ccp 19-109-03, Bin No. 003009, Coosa County, Alabama.* Report on file with the Alabama Historical Commission. (John W. Cottier and A. M. Smith).

2013 *An Archaeological Survey and Evaluation of a Proposed Waste Dumping Station, ALDOT Project NO. EPR 8970(900), Talladega County, Alabama.* Report on file with the Alabama Historical Commission. (John W. Cottier, H.H. Bryant III and A.M. Smith).

2013 *A Phase I Cultural Resource Survey and Evaluation of the Proposed Deer Ridge II Apartments in Fort Payne, Dekalb County, Alabama, Project Number 2013062.* Report on file with the Alabama Historical Commission. (John W. Cottier and A. M. Smith).

2014 *A Phase I Archaeological Survey and Evaluation of the Green Property, Associated with the ALDOT Birmingham Northern Beltline Project, AHC 14-0549, Palmerdale, Jefferson County, Alabama.* Report on file with the Alabama Historical Commission. (John W. Cottier and A. M. Smith).

2014 *A Phase I Archaeological Survey and Evaluation of a Proposed 101 Acre Development by Auburn City Schools, Auburn, Alabama*. Report on file with the Alabama Historical Commission. (John W. Cottier, H.H. Bryant III and A.M. Smith).

Technical Reports, continued

2014 *Phase II Archaeological Investigations at 1le531 for a Proposed Development by Auburn City Schools, Auburn, Lee County, Alabama.* Report on file with the Alabama Historical Commission. (John W. Cottier, H.H. Bryant III and A.M. Smith).

2014 *A Phase I Cultural Resource Survey And Evaluation Of Approximately 8.5 Miles Of Mountain Bike Trails In Chewacla State Park, Lee County, Alabama.* Report on file with the Alabama Historical Commission. (John W. Cottier and A. M. Smith).

2014 *A Phase I Archaeological Survey and Evaluation of a Proposed Materials Pit, Montgomery County, Alabama Project No. AHC 2014-144.* Report on file with the Alabama Historical Commission. (John W. Cottier and A. M. Smith).

2014 *Phase I Archaeological Survey Of A Selected Portion Of The Tivoli Housing Development, Auburn, Lee County, Alabama. Alabama Historical Commission Number AHC 2014-1015.* Report on file with the Alabama Historical Commission. (John W. Cottier, A. M. Smith and T.M. Simmons).

2014 *Phase I Archaeological Survey of a Selected Portion of the Asbury Hill Development, Auburn, Lee County, Alabama. Alabama Historical Commission Number AHC 2014-1122.* Report on file with the Alabama Historical Commission. (John W. Cottier, A. M. Smith and G.A.Wesson).

2014 *An Archaeological Reconnaissance of the Proposed 72 Acre Bette Lewis Tract, Natural Resources Conservation Service (NRCS) WRP Easement, Lowndes County, Alabama.* Report on file at the Auburn University Archaeological Laboratory. (John W. Cottier and A. M. Smith).

2014 *An Archaeological Reconnaissance of the Proposed 220 Acre Pelham Farms Tract, Natural Resources Conservation Service (NRCS) WRP Easement, Bullock County, Alabama.* Report on file at the Auburn University Archaeological Laboratory. (John W. Cottier, H. H. Bryant III and A. M. Smith).

2014 *A Phase I Cultural Resource Survey of a Proposed Bridge Replacement Over Little Uchee Creek Located On Lee County Road 206, Project No. 41-126-13, STR# 104z, B.I.N. # 003176, Lee County, Alabama.* Report on file with the Alabama Historical Commission. (John W. Cottier and A. M. Smith).

2014 *A Phase I Archaeological Survey of ca. 339 Acres for the City of Dothan's Proposed Recreational Trails Program, Houston County, Alabama.* Report on file with the Alabama Historical Commission. (Sarah A. Blankenship, J. W. Cottier and A. M. Smith).

2015 *A Phase I Cultural Resource Survey And Evaluation Of The Proposed Commercial Development Project Highway 14, In Prattville, Autauga County, Alabama.* Report on file with the Alabama Historical Commission. (John W. Cottier and A. M. Smith).

Grants and Awards

2016 Summer Graduate Research Assistantship Program, Graduate School, University of Mississippi, Oxford ($2,500).

2016-2017 Graduate Student Research Grant, Graduate Student Council, University of Mississippi, Oxford ($1,000).

2017 Graduate Student Travel Award, Graduate Student Council, University of Mississippi, Oxford ($300).

Conference Papers and Poster Presentations

2013 Allison M. Smith and John W. Cottier
Dead Men Tell Tales: A Look into People of Interest Along the Old Federal Road in Russell County, Alabama. 90th Annual Meeting of the Alabama Academy of Science, Samford University, Homewood, Alabama, March 2013.

2013 Allison M. Smith and John W. Cottier
Dead Men Tell Tales: A Look into People of Interest Along the Old Federal Road in Russell County, Alabama. East Alabama Chapter of the Alabama Archaeological Society, Loachapoka, Alabama, May 2013.

2014 Allison M. Smith and John W. Cottier
The Use of Local and Non-Local Lithic Materials at the Ebert-Canebrake Site (1Mc25). 91th Annual Meeting of the Alabama Academy of Science, Auburn University, Auburn, Alabama, March 2014.

2014 Allison M. Smith and John W. Cottier
A Historical Snapshot of the Native Landscape of the Lower Alabama River in 1814. 71st Annual Meeting of the Southeastern Archaeological Conference, Greenville, South Carolina, November 2014.

2016 Tony Boudreaux, Emily Clark, Jay Johnson, Brad Lieb, John O'Hear, and Allie Smith
Investigations at 22OK778, An Early Contact Period Site in Northeast Mississippi, 73rd Annual Meeting of the Southeastern Archaeological Conference, Athens, Georgia, October 2016.

2017 Tony Boudreaux, Emily Clark, Jay Johnson, Brad Lieb, John O'Hear, and Allie Smith
Investigations at 22OK778, An Early Contact Period Site in Northeast Mississippi, 2017 Annual Meeting of the Mississippi Archaeological Association, Starkville, Mississippi, March, 2017.

2017 Allison M. Smith
Digging through Trash: Results of an Archaeological Investigation at the Stark Farm Site (22OK778), Oktibbeha County, Mississippi, 7th Annual Meeting of the Graduate Student Council Research Symposium, Poster Presentation, Oxford, Mississippi, March 2017.

Research Interests

Native American Studies, Southeastern Archaeology, Historical Archaeology, Ethnohistory, European Contact Period, Ceramic Analysis, Geographic Information Systems, Remote Sensing.

Professional Associations

Alabama Archaeological Society 2012-2017
Mississippi Archaeological Association 2017
Society for American Archaeology 2009-2017
Southeastern Archaeology Conference 2011-2017